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ANNALS

OF

THE ASTRONOMICAL OBSERVATORY OF HARVARD COLLEGE.

EDWARD C. PICKERING, DIRECTOR.

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INVESTIGATIONS

OF THE

NEW ENGLAND METEOROLOGICAL SOCIETY

FOR THE YEAR

1890.

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PREFACE.

THE observations in this volume are published in accordance with the system of co-operation between this Observatory and the New England Meteorological Society. They form a continuation of those published in Volume XXI of these Annals. The work has been superintended by Professor W. M. Davis, Director of the New England Meteorological Society, who has been assisted in the preparation of the volume by Mr. L. G. Schultz (during January and February 1890) and subsequently by Mr. J. Warren Smith, of the U. S. Signal Service.

EDWARD C. PICKERING,
Director of the Observatory of Harvard College.

CAMBRIDGE, U. S., *November 2, 1891.*

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OBSERVATIONS

OF THE

NEW ENGLAND METEOROLOGICAL SOCIETY

IN THE YEAR 1890.

METEOROLOGICAL SUMMARY FOR THE YEAR 1890.

Reports were received during the year from 172 different observers, but owing to changes due to various causes the average number has remained about the same as in 1889,—154. The stations of the Society are distributed as follows:—New Brunswick, 1; Maine, 15; New Hampshire, 22; Vermont, 14; Massachusetts, 73; Rhode Island, 11; Connecticut, 28; New York, 8: nine of these are stations of the United States Signal Service. The distribution has not materially changed since 1889, our efforts to establish stations in the uncovered districts of northern and western New England being only partially successful. The loan of instruments can easily be arranged with observers, in northern Maine especially, who would volunteer to make continuous records. More observers are also needed in Vermont and western Massachusetts.

The following summary, by quarters, of the weather during the year is based on the more extended accounts published as Advance Bulletins early in the several months, and from the monthly summaries on the second page of the Monthly Bulletins; these having been prepared from the reports from our observers, and the weather maps issued twice daily by the U. S. Signal Service.

THE FIRST QUARTER OF 1890.

January was very mild and the precipitation was considerably below the average. January, 1889, as determined by all of our records of that month, was the warmest of any during the past 50 years: then followed January, 1880, as determined by the fewer records then reported, with a mean temperature but little below that of the same month in 1889, and third in order comes January, 1890. The mean temperature was 5°.6 above the normal. The general maximum temperature, about 66°, occurred on the second of the month. At many stations covering a long period of years that was the warmest January day noted; pansies (heart's ease) were gathered in the open air at Belfast, Me., and dandelions and other wild flowers in Rhode Island. Thunderstorms occurred in northern Vermont. The warmth of this day was due to the presence of a cyclonic storm, which was central north of New England, giving us southerly winds, which well deserved the name of a sirocco. The amount of precipitation was 1.17 inch below the normal for the month, the greatest deficiency occurring in southern and the least in northern New England. Perhaps an explanation of the high temperature during the month lies in the relation that existed between the storm tracks and the district. During the coldest January, that of 1888, eight cyclonic storms controlled the weather, and all of them came from the northwest; in January, 1889 (the warmest), there were also eight cyclonic storms, but five came from the southwest; and of the eleven storms that crossed or passed near to New England in January, 1890, five came from the southwest. In view of these facts it seems plausible to say that the low temperature of January, 1888, was due to the importation of cold air from the north and northwest; and that the last two Januaries were warm because of the large amount of warm air carried up from the south. Of the eleven cyclonic storms that influenced the weather, five passed to the north of New England, five crossed it from west to east and one, only, passed to the south of New England. More than 0.01 inch of rain fell somewhere in New England on all but three days, although there were seven days with but very little precipitation.

February was very warm, but without a strongly prevailing departure from the normal precipitation. The abnormal warmth of the winter season continued through this month, when the departure from the normal temperature for the region was +5°.3, which was almost as great as in January (+5°.6) and in the preceding December (+6°.3). The snowfall was deficient, the only general snowstorm being on February 19 and 20, during the central passage of the ninth cyclonic storm of the month. This was followed by a cold wave with minimum temperature generally near or below zero on the twenty-second. Ten cyclones influenced the weather during the month, seven passing to the north of New England, and three across the district from west to east. Rain or snow fell on twenty-five days in some parts of New England, while five days had very little local rain. An expected cold wave was held back at the end of the month, its coming being continually cut off by small cyclonic storms which came from the southwest and passed to the west of New England, giving dull threatening weather.

March was very wet and the temperature was near the normal, the strongly abnormal warmth of the previous winter months being succeeded by a temperature but little above the normal in the southern and below in the northern districts. The previous deficiency in snowfall was in good part made up by the plentiful snow of this month in which the precipitation was 2.59 inches above the normal. It was decidedly the most wintry month of the season. This may without doubt be partly explained by the southerly trend of the cyclones as they passed near New England, for while the same number influenced our weather during the month as in February, only three passed to the north of New England, two moved across from west to east, one crossed from south to north, and four passed to the east up our coast. Rain or snow fell on all but two days during the month, with five days when but little more than trace fell.

The weather for the first quarter then was very warm and the precipitation was slightly above the normal. Table VI shows that the mean temperature was 3°.7 above the normal, the least departure being in Maine, 1°.4; and the greatest in Connecticut, 4°.4. Table VII shows that the precipitation was 1.10 inch above the average, the greatest excess being in Massachusetts and the least in Connecticut.

THE SECOND QUARTER OF 1890.

April was near the normal in both temperature and precipitation. The weather of the month was varied from that of several months preceding by a spell of generally fine clear weather lasting from April 10 to April 24, with the exception of cloudy weather and light rain on April 14 and 15. Rain occurred on an average on less than nine days; the average cloudiness was 4.5 on a scale of 10 and the mean relative humidity was 67 per centum. There was a slight excess in precipitation in southern New England, but the average fall was about one inch below the normal, and there were nine days on which no rain fell in New England and six days more on which the fall was not more than a trace. The weather was influenced by the passage of ten cyclones, six of which passed to the north of New England, two across from west to east, one passed from west to east to the south and one moved up our eastern coast.

May was wet, with a temperature nearly normal. The excess in precipitation was greatest in the northern sections, varying from 1.80 inch to 6.95 inches. The number of rainy days was in excess, and there were but three days on which no rain fell somewhere in New England, and but seven days on which the fall was local and light. The nights were generally cool and there were few days with a high or excessive range of temperature. The weather was influenced by ten cyclones, six of which passed to the north of New England, one across from west to east, two across from southwest to northeast and one originated over New England. The cyclones were not of marked energy, but the local storms were severe, though short.

June was cool and the precipitation was slightly below the normal. Much the greater part of the precipitation fell during the first part of the month when the temperature was low and the duration of sunshine below the average. During the last half of the month little rain was recorded, occurring for the most part in light local showers. On five days no rain fell in New England, and on seven days little more than a trace fell. Only five cyclones passed near New England during the month. Of these two passed to the north of New England, two across from west to east, and one dissolved before reaching New England. The month was devoid of marked barometric changes.

The second quarter was cool and wet. The temperature was 0°.3 below the normal with the greatest deficiency in northern and the least in central New England. The precipitation was about 1.00 inch above the average, being 3.08 inches above in Maine and 0.01 inch above in Connecticut. The agricultural season opened at about the usual date, and farmwork attained good advance during the quarter.

THE THIRD QUARTER OF 1890.

July was below the average in both temperature and precipitation, though there was no strongly marked departure from the normal in either respect. The month was characterized by a severe drought during the middle of the month, extreme ranges of temperature, numerous thunderstorms accompanied in some cases by hail and high winds, and one of the most destructive tornadoes that has visited the country east of the Hudson river. Frosts occurred in all the northern states on July 10-12 and 19-23, and at Calais, Me., during the progress of a hailstorm on July 20, snow fell to an appreciable depth. The weather was influenced by six cyclones, five of which passed to the north of New England and one crossed the district from west to east. There were only four days without rainfall, but twelve when only light local showers occurred.

August was cool, with the precipitation slightly above the average. The month is easily divided into two periods, each distinct in certain weather characteristics and each readily subdivided into other periods. From the first to the sixteenth the weather was generally warm with little rain and sunshine above the normal. During the last half of the month the weather was cool and rainy with the sunshine below the average. At Strafford, Vt., the total rainfall for the month was 8.85 inches, making an excess of 4.99 inches; three inches fell in the storm of July 22-23. At Brookfield, Vt., on the same date, the fall was nearly five inches. Strong temperature ranges occurred and occasional light frosts were felt in the northern states. Nine cyclones influenced the weather, four passing to the north, two across from west to east, and two originating over New England. There was but one day on which no precipitation fell in some part of New England but on twelve days the fall was very light.

September was wet, with the temperature close to the normal. The observer at Block Island, R.I., reports a deficiency of half an inch in precipitation for the month, but at other stations the excess varied from 0.18 to 1.58 inch in the north and from 0.63 inch to 7.52 inches in the south. The total rainfall at Springfield, Mass., was 11.12 inches and the observer at Provincetown, Mass., reports 7.62 inches, the greatest amount of precipitation ever recorded by him in any month of the year during over six years of observation. General and heavy frosts occurred on September 25. Seven cyclones influenced the weather, five of which passed to the north and two to the south of New England. No West India hurricanes reached our coast during the month. On seven days not more than a trace of rain fell in any part of New England, and there were eight days with very little fall.

The third quarter as a whole was colder than the average and the precipitation was above the normal. The temperature was 0°.6 below the normal, the deficiency being greatest in the south and least in the north. The precipitation was 1.23 inch above the normal with the greatest excess in the north and the least in the south.

THE FOURTH QUARTER OF 1890.

October was cold and wet. There were few extreme ranges or rapid changes in the temperature, which was 1°.1 below the normal. The precipitation was 3.20 inches above the average, being greatest in the central and southern districts and least in the northern. Snow fell on seven days in the northern states. The wind was above the normal in velocity and movement. Heavy thunderstorms occurred over New England and water-spouts were formed off our southern coast on October 19. The barometric pressure was over 0.1 inch below the normal, the low pressure being due to the large number of cyclones as compared with the anti-cyclones, together with the great intensity which the former developed in passing along our coast. Nine cyclones influenced our weather during the month. Of these, three passed north, one across from west to east, two passed up our coast, one moved south of New England, one originated over New England, and one dissolved shortly before reaching our district. There were only two days with no rainfall in New England, and four or five with light precipitation.

November was dry with a normal temperature. The total precipitation for the month was 2.60 inches below the average, being in marked contrast to the preceding month. The greatest departure from the normal was in the south and the least in the north. There were only four days without precipitation, but there were thirteen days with only light local rains. A trace of snow fell in the south, and from a trace to 7.00 inches in the north. Ten cyclones influenced the weather during the month, yet they gave a deficient rainfall and a small number of rainy days. Nine of the cyclonic areas passed to the north of New England, and one moved across from west to east. Many were of little energy, and some gave little or no precipitation in New England.

December was very cold with the precipitation slightly above the normal. The month was one of the coldest Decembers on record, probably owing to the general southerly trend of the cyclones which served to make the prevailing wind northerly, coupled with the prevailingly low temperature accompanying the anti-cyclones. It was in strong contrast to December, 1889, when ten of the eleven cyclones passed to the north of New England. Other Decembers have had a lower absolute minima, yet the steady continuance of low temperature gave this December a mean more than six degrees below the normal. The departure was 9°.2 in Maine and 4°.7 in Connecticut. At several stations in the northern states the temperature did not rise more than three or four degrees above freezing during the entire month, and at various times reached over thirty degrees below zero. The weather was influenced by eleven cyclones, three of which passed to the north of New England, four across from west to east, two up our eastern coast, one originated over New England and one dissolved shortly before reaching our district. In the northern section, the precipitation was mostly in the form of snow, nearly four feet having fallen in certain places. There were four days with no precipitation and nine with only light local rain or snow.

The fourth quarter was very cold and wet, the temperature being in marked contrast to that of the first quarter. Table VI shows the temperature to have been 2°.4 below the normal, varying from 3°.4 below in Maine to 2°.1 below in Connecticut. The precipitation was very uniform and about 1.25 inch above the normal.

THE YEAR 1890.

The following table indicates in brief form the character of the several months of 1890, as compared with the normals determined by observations for a number of years.

MONTH.	TEMPERATURE.	PRECIPITATION.
January	Unusually warm.	Deficient; light snow.
February	Unusually warm.	Slightly deficient; light snow.
March	Normal.	Excessive; much snow.
April	Normal.	Slightly deficient; light snow.
May	Normal.	Excessive.
June	Cold.	Slightly deficient; unevenly distributed.
July	Cold.	Deficient; heavy drought.
August	Cold.	Slightly excessive.
September	Normal.	Excessive; heavy in places.
October	Cold.	Unusually heavy.
November	Normal.	Deficient; very light.
December	Unusually cold.	Slightly excessive; much snow.
Year	Normal.	Above normal.

From the above it may be seen that the year 1890 was wet, and with a closely normal temperature. The temperature of five of the months—March, April, May, September and November,—departed very little from the normal; January and February were much above it, being unusually mild, while June, July, August, October and December were below the normal, the latter unusually so. The precipitation for the whole year was 4.59 inches above the normal, although only half the months—March, May, August, September, October and December—show an excess; but while all these except August and December were considerably above the normal, only January, September and November show a marked deficiency. The rainfall was especially heavy in southern New England in October, some stations recording more than in any other month during several years of observations. The snowfall was very light during January and February but was heavy in March and December. Rain or snow fell to the amount of 0.01 inch in some parts of New England on 321 days during the year, but on 96 of these the fall was very light and local.

The following tables give the amount of departure from the normal for each month of the years, 1885 to 1890, these covering the period during which our

Society has gathered records for New England. The most striking characteristic of these tables and of others of the same kind for other periods and places is the absence of sequence in the departures from normals. In spite of assiduous search it does not yet appear to be possible to infer with useful certainty the peculiarities of a future month or year from the peculiarities of those in the past.

DEPARTURE OF MONTHLY TEMPERATURES FROM NORMAL.

Month.	Year.					
	1885.	1886.	1887.	1888.	1889.	1890.
January	—0.3	+0.1	—1.5	—6.9	+8.2	+5.6
February	—8.0	—1.8	—0.1	—0.1	—3.5	+5.3
March	—7.4	—0.4	—2.6	—2.5	+4.5	+0.2
April	+1.3	+4.2	—2.1	—2.8	+3.5	+0.8
May	—0.7	+0.2	+3.8	—2.5	+3.0	—0.1
June	—0.3	—2.2	—0.5	+0.5	+1.0	—1.7
July	0.0	—1.1	+2.8	—3.3	—1.8	—1.1
August	—2.5	—1.3	—2.2	—0.7	—1.8	—0.9
September	—2.7	—0.2	—3.0	—2.6	+1.0	+0.2
October	—0.4	+0.2	—1.5	—4.7	—3.0	—1.1
November	+2.5	+1.7	0.0	+1.8	+4.2	0.0
December	+2.0	—2.7	+1.6	+3.8	+6.3	—6.1
Year	—1.3	—0.4	—0.5	—1.8	+1.7	+0.1

DEPARTURE OF MONTHLY PRECIPITATION FROM NORMAL.

Month.	Year.					
	1885.	1886.	1887.	1888.	1889.	1890.
January	+1.16	+2.02	+1.81	+0.78	+0.96	—1.17
February	+0.07	+2.37	+1.76	+0.20	—1.51	—0.27
March	—2.21	—0.52	+0.41	+1.77	—1.48	+2.54
April	—0.53	—1.03	+0.26	—0.72	—0.22	—0.69
May	—0.70	—0.05	—2.00	+0.95	+3.35	+2.01
June	—0.19	—1.39	+0.87	—0.75	+0.32	—0.33
July	—0.86	—0.69	+1.75	—1.55	+3.92	—0.71
August	+2.06	—0.89	+0.70	+1.19	—0.59	+0.14
September	—1.62	+0.03	—1.68	+4.78	+0.77	+1.80
October	+1.16	—0.73	—1.10	+1.71	+0.49	+3.20
November	+0.96	+0.82	—0.95	+2.23	+2.00	—2.60
December	—0.16	+1.05	+0.90	+1.04	—0.47	+0.67
Year	—1.20	+0.93	+2.69	+11.76	+4.25	+4.59

THE CYCLONES OF 1890 IN NEW ENGLAND.

The number of cyclones or cyclonic storms, defined as in the reports for 1888 and 1889 and indicated on the daily weather maps of the Signal Service and in the U. S. Weather Review as approaching near enough to New England to exert a distinct control on our weather, was 108; this was 21 more than in 1889 and 20 more than in 1888. The increase in the number of cyclones noted may be partly due to a slightly different method of defining them and partly due to an actual increase in the number of cyclones occurring during 1890. The numbers given for the whole county by the U. S. Weather Review are, for 1888, 113; for 1889, 123; and for 1890, 132. The large share of these that passed near enough to influence our weather is a notable feature of the New England climate. The general region from which the cyclones came and the location of their paths when over or near New England are noted in the table below. The usual path of cyclones is down the St. Lawrence valley, with an occasional deviation slightly to the south and across New England, and it is seen from the table that the year 1890 varies very little from the rule in this respect. Of those which passed north of New England the greater number came from the northwest across the Lakes, but included in this number are several that came from the southwest and passed up the Ohio valley, and thence down the St. Lawrence valley. There are also included in this number a few cyclones that moved eastward in Canada but far to the north of the Lake region, and yet sufficiently near New England to influence the winds and to cause cloudy skies and rain. The cyclones that that have passed to the south of New England include two or three that moved from the Lakes or from the Mississippi valley to the Middle Atlantic coast and vanished there; as well as a number that passed to the coast north of Cape Hatteras and then up our eastern coast; while the cyclones that passed east of New England include only those that formed off the southern or Middle Atlantic coast or that reached the coast from the Gulf of Mexico or the Mississippi valley, south of Cape Hatteras. In the number that originated over or near New England there might be included a large number of secondary cyclones that formed over southern New England while the primary storm passed down the St. Lawrence, and then whirled off to the Atlantic with all the energy of the primary storm: indeed, in many cases, the primary weakened while the secondary grew.

The following tables, in which the cyclones are classified with reference to their intensity contain also certain special data: the dates on which cyclones passed over or nearest to New England, the lowest pressure in New England during their passage, as given on the weather maps of the Signal Service, the change of central pressure during the passage, an increase of pressure being indicated, by the letter, "*i*," and a decrease of pressure by the letter, "*d*": the omission of these letters in many cases indicates that the pressure was not materially changing or else that the path was so remote from the stations of observation that the variations in central pressure could not be ascertained. A decrease of central pressure, indicating an increase of energy of the cyclone is more common than the reverse; and in several cases where the pressure of the primary storm has decreased, a secondary has formed off our southern coast and grown at the expense of the primary. The greatest number of the cyclones of the United States, therefore, not only pass over or near New England but increase in energy as they come toward us.

CLASSIFICATION OF CYCLONES.

Month.	Total Number.	Number passing North of New England.	Number crossing New England from West.	Number crossing New England from South.	Number passing East of New England.	Number passing South of New England.	Number originating over or near New England.	Number dissolving before reaching New England.
January	11	5	5	. .	. .	1	. .	. .
February	10	7	3	. .	. .	. .	. .	. .
March	10	3	2	1	4	. .	. .	. .
April	10	6	2	. .	1	1	. .	. .
May	10	6	1	2	. .	. .	1	. .
June	5	2	2	. .	. .	. .	. .	1
July	6	5	1	. .	. .	. .	. .	. .
August	9	5	2	. .	. .	. .	2	. .
September . . .	7	5	. .	. .	. .	2	. .	. .
October	9	3	1	. .	2	1	1	1
November . . .	10	9	1	. .	. .	. .	. .	. .
December	11	3	4	. .	2	. .	1	1
Total 1890 . . .	108	59	24	3	9	5	5	3
Total 1889 . . .	87	43	12	12	7	8	1	4
Total 1888 . . .	88	34	23	8	8	4	6	5

A. CYCLONES PASSING NORTH OF NEW ENGLAND.

January 2 . .	29.9 *i*	April 30 . .	29.7 *d*	September 8 . .	30.1 *d*
“ 6 . .	29.4 *i*	May 5 . .	29.6 *d*	“ 13 . .	29.9 *d*
“ 13 . .	29.5 *i*	“ 14 . .	29.6 *d*	“ 20 . .	29.9 *d*
“ 25 . .	29.7 *i*	“ 16 . .	29.9 *d*	“ 23 . .	29.7 *i*
“ 31 . .	30.0 *d*	“ 17 . .	29.8 *d*	October 4 . .	29.5 *i*
February 3 . .	29.8 *i*	“ 22 . .	30.2 *d*	“ 10 . .	29.9 *i*
“ 5 . .	29.2 *i*	“ 23 . .	30.0 *d*	“ 14 . .	29.6 *i*
“ 8 . .	29.5 *i*	June 7 . .	29.7 *d*	November 2 . .	29.6 *i*
“ 12 . .	29.8 *i*	“ 18 . .	29.7 *d*	“ 8 . .	29.8 *d*
“ 14 . .	29.2 *i*	July 5 . .	29.7 *d*	“ 9 . .	29.8 *i*
“ 24 . .	30.0 *d*	“ 8 . .	29.5 *i*	“ 13 . .	29.9
“ 28 . .	29.9 *d*	“ 15 . .	29.9 *d*	“ 15 . .	30.1
March 5 . .	30.0 *d*	“ 26 . .	29.8	“ 19 . .	29.4 *i*
“ 21 . .	29.5 *d*	“ 31 . .	29.7 *d*	“ 21 . .	29.7 *i*
“ 26 . .	29.4 *i*	August 6 . .	29.9 *d*	“ 25 . .	29.7
April 4 . .	29.5 *i*	“ 10 . .	29.7	“ 30 . .	29.5
“ 7 . .	29.7 *d*	“ 14 . .	29.9	December 14 . .	29.9 *d*
“ 9 . .	29.4 *d*	“ 17 . .	30.0	“ 21 . .	29.5 *i*
“ 12 . .	30.1 *d*	“ 21 . .	29.7 *d*	“ 23 . .	29.6
“ 23 . .	30.0 *d*	September 4 . .	30.0		

B. CYCLONES CROSSING NEW ENGLAND FROM THE WEST.

January 8 . .	29.3 *i*	March 12 . .	30.0	August 19 . .	29.9
“ 11 . .	30.0 *d*	“ 28 . .	29.4 *d*	“ 30 . .	29.7 *d*
“ 16 . .	29.4 *i*	April 14 . .	29.8 *i*	October 29 . .	29.3 *i*
“ 20 . .	29.4 *i*	“ 27 . .	29.8	November 17 . .	29.2 *i*
“ 24 . .	29.9 *i*	May 10 . .	29.9 *d*	December 3 . .	29.3
February 18 . .	29.8 *d*	June 14 . .	29.9 *d*	“ 7 . .	29.6 *i*
“ 20 . .	29.2 *i*	“ 25 . .	29.6 *d*	“ 11 . .	29.3 *i*
“ 26 . .	29.7 *d*	July 17 . .	29.7 *i*	“ 29 . .	29.8 *i*

C. CYCLONES CROSSING NEW ENGLAND FROM THE SOUTH.

March 22 . .	29.5 *i*	May 6 . .	29.6 *d*	May 20 . .	29.5 *i*

D. CYCLONES PASSING EAST OF NEW ENGLAND.

March 2 . .	29.5 *i*	March 19 . .	29.7 *d*	October 27 . .	29.1 *i*
“ 6 . .	29.9	April 25 . .	30.1 *d*	December 9 . .	29.9 *d*
“ 15 . .	29.1 *i*	October 24 . .	29.5 *d*	“ 18 . .	29.4 *i*

E. CYCLONES PASSING SOUTH OF NEW ENGLAND.

January 27 . .	29.7 *d*	September 17 .	29.7 *i*	October 19 . .	29.3 *i*
April 18 . .	29.8 *d*	“ 27 .	29.9 *i*		

F. CYCLONES ORIGINATING OVER OR NEAR NEW ENGLAND.

May 28 . .	29.7 *i*	August 27 . .	29.2 *i*	December 27 . .	29.1 *i*
August 23 . .	29.8	October 17 . .	29.3 *i*		

The most notable cyclones, during 1890, selected with special reference to their violence in New England, occurred on the following dates:—

January 13: This cyclone moved from the Indian Territory to Lake Michigan on January 12, then down the St. Lawrence valley on the following day, with snow and heavy gales in New England, although not as severe as in the lower Lake region and New York.

March 2, 6, 15, 19: All these cyclones moved easterly up our coast giving northeast gales and heavy snows in New England.

March 28: This cyclone crossed our district from west to east, with heavy winds and rain in the south and snow in the north, but it was decreasing in energy, having spent most of its force in the Mississippi and Ohio valleys. The Louisville, Ky., tornado occurred in the southeastern quadrant of this cyclone.

May 5: While a cyclone was passing down the St. Lawrence with moderate energy, two secondaries formed over southern New England and passed up our coast giving over three and one half inches of rain in Maine, and about two inches elsewhere.

May 16: A series of cyclonic storms passed down the St. Lawrence from May 13 to 17, and in the southeast quadrant of one of these a severe wind storm or tornado occurred in southern New Hampshire. It was observed at New Market Junction, N. H., as forming at the meeting of two clouds which revolved with great rapidity, accompanied by lightning and heavy rain. It struck and completely demolished a large barn in which A. W. Hurd, a young farmer, had just taken refuge: "Great beams were broken like pipe-stems and hurled hundreds of feet into the air," and Mr. Hurd was carried over 150 feet and instantly killed.

July 8: A cyclone passed from the lake region down the St. Lawrence valley. It generated a severe wind-storm which passed from Lake Champlain to the Maine coast, causing much damage throughout its course. Orchards and buildings were injured throughout northern Vermont and New Hampshire and in Maine. Several persons were drowned on Lake Champlain by capsizing of boats, and others were killed or injured by falling buildings and trees.

July 15: A cyclone passed easterly far to the north. During its passage a hailstorm was generated near Manchester, Vt., and a narrow belt about one fourth of a mile wide was devastated by hail.

July 26: A cyclone passed down the St. Lawrence valley with moderate energy. The Lawrence, Mass., tornado was formed in its southeast quadrant, an account of which is given on a later page.

July 31: During the passage of this moderate cyclone down the St. Lawrence valley, severe thunderstorms were generated in southern New England, where much damage was done by wind and lightning.

August 10: A cyclone passed down the St. Lawrence, and generated thunderstorms accompanied by hail in Connecticut, where some damage was done to the crops.

August 19: A cyclone rapidly crossed New England from west to east, generating a violent wind storm in the Connecticut valley near Deerfield, Mass.

August 21: A cyclone moved up the Ohio valley and down the St. Lawrence. It generated a secondary off our southern coast, which passed northeast and produced from three to five inches of rain over New England.

August 27: A cyclone originated over southern New England and passed up the coast, giving heavy rains and severe gales.

September 7: A poorly defined cyclonic area passed from the Lower Lakes to our southern coast and up the coast on September 17 with increasing energy. It was accompanied by heavy rain and severe thunder-storms in southeastern New England. At New Bedford, Mass., five inches of rain fell on the night of the sixteenth, and on Cape Cod several people were killed and much damage was done by lightning.

October 17: This cyclone was probably a secondary connected with a cyclone just passing down the St. Lawrence valley. It formed off our southern coast and moved rapidly northeast with heavy rain and high winds.

October 19: A cyclone moved from the lakes to the south of New England, then up our coast with dangerous northerly gales and heavy rain. The wind reached a maximum velocity of 56 miles an hour at Boston. During a heavy thunderstorm that passed over New Haven, Conn., lightning struck the tower of the Public Library building, doing considerable damage; basements and cellars were flooded and sewers overflowed in the centre of the city. This storm occurred at about 3.15 P. M.; at 3.30 P. M., a water-spout formed near the new lighthouse, five miles from New Haven, and moved rapidly westward along Long Island Sound. It then moved eastward. A water-spout was later seen at Milford, about ten miles distant. It was a huge black mass, 200 to 400 feet in height and about 25 feet in diameter. The gyrations of the column were very rapid and the water near by was greatly agitated.

October 24: A cyclone came from the Gulf of Mexico and up our coast with heavy rains and easterly gales, rivalling those of October 17 and 19. At 9.08 P. M. on October 24, a wind velocity of 78 miles an hour was noted at Block Island, R. I. The cyclone decreased in energy as it passed to the northeast.

October 27: This cyclone followed closely after the one last noted. It passed rapidly up our coast reaching its greatest intensity as it neared Nova Scotia.

November 17: A cyclone moved from the lower Lakes rapidly across southern New England and up our coast, giving high winds and moderate rains, with snow in the north.

December 3: A cyclone which came from Texas to the Lower Lakes on December 2, passed across southern New England and up our coast on the third, giving heavy snows in the north, and rain with thunder-storms in the south.

December 18: A cyclone moved up the coast with heavy rains and snow and high northerly gales.

December 27: This storm was caused by the junction of a cyclone which ran up the coast from Texas with one which moved over New England from the Lakes. They met over our eastern coast, giving severe gales and heavy snows throughout New England.

TABLES.

The tables of this report are arranged in the same order as those presented in the report of 1888 and 1889, where they have already been explained in detail.

Table I contains geographical data for all the stations reporting during 1890, An asterisk in the column of elevation indicates that the value there given is only approximate. The observers themselves are in most cases the authority for these data. The distribution of the stations is illustrated in plate I, where the numbers correspond to those in the first column of this table.

Table II is the annual summary for 1890 for such stations as have reported continuously through the year. The daily means, from which the monthly and annual means are computed, are reduced from the arithemetical means of the actual observations by applying corrections proper to the hours of observation according to the data of Volume XXI of the Smithsonian Contributions. In determining the number of rainy days, those were counted in which 0.01 inch or more of precipitation was recorded.

Tables III, IV, and V contain barometric records reduced to sea-level, with the addition of the monthly relative humidity in table III. The values of the highest and lowest readings at Nashua, Blue Hill, Providence and New York (a) are taken from self-recording barographs. (See page 23.)

Tables VI and VII exhibit the departures of the mean monthly temperature and total monthly precipitation of 1890, for those stations having a record of ten years or more. The general departure of temperature and precipitation from the normal in New England for the several months and the year has been considered on page 7.

Table VIII contains the maximum velocity of the wind in miles per hour and the total movement of the wind of each month for all the stations where anemometers are used. The maximum wind velocity is not determined by the same method at all the stations. At Providence the greatest number of miles for the hour preceding the hour of regular observation is taken as the maximum; at St. John, Brattleboro and Blue Hill, the greatest movement in any hour since the preceding observation is taken as the maximum; at Amherst and Leicester the greatest pressure of the wind at any time is recorded as the maximum velocity, while at the remaining stations the greatest number of miles for any five minutes is taken as the maximum. The latter is the method in use by the Signal Service.

Tables IX and X, occupying pages 34 to 69 and 70 to 93 respectively, are reprinted from the Bulletins that have been issued monthly as usual during the year 1890; but the corrections received after the publication of the Bulletins up to the 25th of the month in which it is issued are here inserted. Table IX contains monthly summaries of meteorological data. Table II is constructed chiefly from these data. Table X presents the daily precipitation for a number of stations, selected geographically by means of which the distribution of our precipitation as dependent on the passage of cyclonic storms, may be clearly perceived.

Plate I gives the distribution of stations, with numbers corresponding to the first column of table I, and also the mean annual isotherms. The latter are drawn from the values of table II, without reduction to sea-level. They are necessarily only approximate, and their curvature is determined in many points by a knowledge of the topography, when the records are wanting.

TABLE I.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	County and State.	Lat. N.	Long. W.	Elevation.	OBSERVER.
1	St. John	St. John, N. B.	45° 17′	66° 31′	140	Gilbert Murdoch, C. E.
2	Bar Harbor	Hancock, Me.	44 23	68 13	50	Joseph Wood.
3	Belfast	Waldo	44 25	69 00	178	L. H. Murch.
14	Calais	Washington	45 11	67 15	120	Dr. D. E. Seymour.
4	Eastport	“	44 55	66 54	53	U. S. Signal Service.
5	Fairfield	Somerset	44 35	69 35	90	H. M. Mansfield.
6	Gardiner	Kennebec	44 13	69 46	82	Henry Richards.
17	Green Mountain	Hancock	44 21	68 20	. .	U. S. Signal Service.
7	Kent's Hill	Kennebec	44 :5	70 05	500*	Prof. W. C. Strong.
8	Lewiston	Androscoggin	44 06	70 10	185*	Union Water Power Co.
9	Mayfield	Somerset	45 08	69 45	1000*	V. P. Hall.
10	Orono	Penobscot	44 54	68 40	129	Prof. C. M. Fernald.
11	Petit Menan	Washington	44 22	67 52	16*	George L. Upton.
12	Portland	Cumberland	43 40	70 16	99	U. S. Signal Service.
16	Sorrento	Hancock	44 29	68 11	60	Wm. L. Jackson, M. D.
15	West Jonesport	Washington	44 32	67 38	22	C. Hopkins.
32	Belmont	Belknap, N. H.	43 30	71 35	. .	Winnepissiogee Lake Co.
33	Berlin Falls	Coos	44 26	71 15	1040*	Owen F. Cole.
34	Berlin Mills	“	44 27	71 14	1100*	Q. A. Bridges.
35	Bristol	Grafton	43 37	71 46	. .	Winnepissiogee Lake Co.
37	Concord	Merrimack	43 13	71 30	283*	Hon. W. L. Foster.
39	Hanover (*a*)	Grafton	43 42	72 17	603	Dartmouth College Observat'y.
58	“ (*b*)	“	43 42	72 17	502	N. H. Agr. Exp't Station.
59	Littleton	“	44 19	71 46	1032	Charles Nurse.
40	Lake Village	Belknap	43 35	71 34	. .	Winnepissiogee Lake Co.
42	Manchester (*b*)	Hillsboro	42 59	71 28	225	William Little.
43	“ (*c*)	“	42 59	71 28	247	U. S. Signal Service.
44	Mine Falls	“	42 49	71 31	. .	Nashua Manufacturing Co.
45	Nashua	“	42 46	71 29	125	Jackson Co.
57	Newton	Rockingham	42 50	71 08	. .	W. C. Gale.
47	North Conway	Carroll	44 02	71 10	575	J. L. Binford.
48	Pennichuck Stn.	Hillsboro'	42 48	71 30	. .	Pennichuck Water Works.
49	Plymouth	Grafton	43 47	71 47	500	Miss Helen M. Clark.
51	Stratford	Coos	44 40	71 35	870*	N. B. Waters.
52	Walpole	Cheshire	43 04	72 21	1128	E. A. Knowlton.
53	Weir's Bridge	Belknap	43 36	71 34	. .	Winnepissiogee Lake Co.
54	West Milan	Coos	44 34	71 20	1016	A. A. Higgins.
55	Wolfboro	Carroll	43 35	71 15	. .	Winnepissiogee Lake Co.
71	Brattleboro' (*a*)	Windham., Vt.	42 51	72 33	335	W. H. Childs.
72	“ (*b*)	“	42 51	72 33	160*	H. B. Chamberlain.
73	Burlington	Chittenden	44 29	73 15	220*	W. B. Gates.
74	Chelsea	Orange	44 00	72 32	1300*	H. L. Bixby.
75	Cornwall	Addison	43 57	73 12	. .	C. H. Lane.
88	Hartland	Windsor	43 30	72 21	665	Rev. Allen Hazen.
77	Jacksonville	Addison	42 48	72 50	1250*	J. W. Hatch.
78	Lunenburgh	Essex	44 27	71 41	1210	H. A. Cutting, Ph. D.
79	Manchester	Bennington	43 10	73 04	790	Rev. E. P. Wild.
82	Northfield	Washington	44 10	72 44	871	U. S. Signal Service.
87	Saxton's River	Windham	43 09	72 35	. .	Maj. W. O. Cartwright.
83	Strafford	Orange	43 52	72 24	500	H. F. J. Scribner.
85	Vernon	Windham	42 47	72 32	310	A. Whithead.
89	Weathersfi'd Ctr.	Windsor	43 25	72 31	1800	B. H. Allbee.
101	Amherst (*a*)	Hampshire, Mass.	42 22	72 31	267	Miss S. C. Snell.
102	“ (*b*)	“	42 20	72 30	250	Mass. Agr. Exp't Station.
177	“ (*c*)	“	42 23	72 31	260	Hatch Experiment Station.
180	Andover	Essex	42 39	71 06	300	A. B. Wiggin.
104	Blue Hill (sum't)	Norfolk	42 13	71 07	640	Blue Hill Observatory.
105	“ “ (base)	“	42 13	71 07	200	“ “ “
174	“ “ (valley)	“	42 14	71 07	50	“ “ “

LIST OF STATIONS AND OBSERVERS.

No.	Station.	County and State.	Lat. N.	Long. W.	Elevation.	Observer.
106	Boston (*a*) . . .	Suffolk, Mass.	42° 21′	71° 04′	124	U. S. Signal Service.
107	" (*b*) . . .	"	42 20	71 05	7	Boston Water Works.
175	Brewster	Barnstable . . .	41 45	70 51	38	Dr. F. A. Rogers.
108	Cambridge (*a*) .	Middlesex . . .	42 23	71 08	74	Harvard College Observatory.
109	" (*b*) .	"	42 23	71 06	8	E. C. Brooks, C. E.
110	Chestnut Hill . .	"	42 20	71 12	124	Boston Water Works.
111	Chicopee	Hampden	42 12	72 35	86	F. H. Norton.
112	Clinton	Worcester	42 25	71 41	297	Geo. W. Weeks.
182	Concord	Middlesex . . .	42 27	71 22	139	Fred A. Tower.
114	Cotuit	Barnstable . . .	41 37	70 26	60*	Gen. J. H. Reed.
116	Deerfield	Franklin	42 30	72 37	175*	James Childs.
117	Dudley	Worcester . . .	42 02	71 58	750	Nichols Academy.
118	Fall River	Bristol	41 42	71 10	212	Patrick Kiernan.
119	Fiskdale	Worcester . . .	42 05	72 09	1150*	O. B. Truesdell.
120	Fitchburg (*a*) . .	" . . .	42 36	71 50	700*	Dr. J. Fisher.
121	" (*b*) . .	" . . .	42 35	71 47	550*	Dr. A. P. Mason.
122	Framingham . .	Middlesex . . .	42 17	71 27	160	Boston Water Works.
123	Gilbertville . . .	Worcester . . .	42 17	72 13	560	Dr. W. E. Brown.
124	Groton (*a*) . . .	Middlesex . . .	42 36	71 34	333	Chas. Woolley.
125	" (*b*) . . .	" . . .	42 36	71 34	. .	Groton School.
126	Holyoke	Hampden	42 12	72 36	113	J. W. Doran.
178	Kendal Green . .	Middlesex . . .	42 22	71 20	135	Cambridge Water Works.
127	Lake Cochituate .	"	42 17	71 25	140	Boston Water Works.
128	Lawrence	Essex	42 42	71 13	51*	Essex Company.
129	Leicester	Worcester . . .	42 15	71 55	1058*	Leicester Academy.
130	Leominster . . .	" . . .	42 30	71 49	500*	W. B. Hosmer.
131	Long Plain . . .	Bristol	41 44	70 55	55	New Bedford Water Works.
133	Lowell (*b*) . . .	Middlesex . . .	42 39	71 20	100*	Prop's Locks and Canals.
136	" (*c*) . . .	" . . .	42 39	71 20	97	" " " "
176	" (*d*) . . .	" . . .	42 39	71 20	84	F. E. Saunders.
134	Ludlow	Hampden	42 12	72 29	381	M. W. Graves.
135	Lynn	Essex	42 28	70 56	40	John C. Haskell.
137	Mansfield (*a*) . .	Bristol	42 01	71 15	150	I. H. White.
183	" (*b*) . .	"	42 01	71 15	168	W. C. Winter.
138	Medford	Middlesex . . .	42 25	71 07	7	R. M. Gow.
139	Middleboro' . . .	Plymouth	41 53	70 55	. .	Middleboro' Water Works.
140	Milton	Norfolk	42 15	71 06	100	Rev. A. K. Teele.
141	Monson	Hampden	42 05	72 20	420	Dr. G. E. Fuller.
142	Mt. Nonotuck . .	Hampshire . . .	42 15	72 40	880	Wm. Street.
143	Mystic Lake . . .	Middlesex . . .	42 26	71 09	12	Boston Water Works.
144	" Pump. Sta.	"	42 25	71 08	10	" " "
173	Nahant	Essex	42 26	70 54	90	Dr. W. D. Hodges.
146	Nantucket . . .	Nantucket . . .	41 14	70 07	14	U. S. Signal Service.
147	New Bedford (*a*)	Bristol	41 39	70 56	88	T. Rodman.
148	" " (*b*)	"	41 39	70 56	48	New Bedford Water Works.
149	Newburyport (*a*)	Essex	42 49	70 51	73	F. V. Pike.
150	" (*b*)	"	42 49	70 51	12*	Newburyport Water Co.
152	Northampton . .	Hampshire . . .	42 19	72 38	125	J. M. Clark.
153	Plymouth	Plymouth	41 57	70 40	40*	Miss L. B. Knapp.
154	Princeton	Worcester . . .	42 25	71 55	1125	Mrs. E. M. West.
155	Provincetown . .	Barnstable . . .	42 03	70 11	15	John R. Smith.
156	Randolph	Norfolk	42 10	71 03	170	Mrs. I. D. Page.
179	Robert's Dam . .	Middlesex . . .	42 21	71 20	90	Cambridge Water Works.
158	Salem (*a*) . . .	Essex	42 30	70 54	40*	J. P. Andrews.
159	" (*b*) . . .	"	42 31	70 54	46	A. A. Smith.
160	South Hingham .	Plymouth	42 13	70 53	63	H. W. Cushing.
161	Springfield . . .	Hampden	42 06	72 35	204	National Armory.
162	Swampscott . .	Essex	42 27	70 58	. .	H. Richardson.
163	Taunton (*a*) . .	Bristol	41 54	71 05	41	Dr. E. U. Jones.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	County and State.	Lat. N.	Long. W.	Elevation.	OBSERVER.
164	Taunton (*b*)	Bristol, Mass.	41° 54′	71° 06′	40*	A. F. Sprague.
165	“ (*c*)	“	41 54	71 06	14	Taunton Water Works.
184	“ (*d*)	“	41 54	71 06	40	C. H. Wilmarth.
181	Wakefield	Middlesex	42 30	71 04	107	S. W. Abbott.
166	Waltham	“	42 22	71 17	40	Boston Manufacturing Co.
168	Wellesley	Norfolk	42 17	71 20	. .	Prof. Sarah F. Whiting.
169	Westboro’	Worcester	42 16	71 38	. .	G. S. Newcomb.
170	Williamstown	Berkshire	42 43	73 13	690	Williams College Observatory.
171	Winchester	Middlesex	42 27	71 08	90*	L. R. Symmes.
172	Worcester	Worcester	42 16	71 46	. .	Richard Fobes.
201	Block Island	Newport, R. I.	41 10	71 35	27	U. S. Signal Service.
202	Bristol	Bristol	41 40	71 16	53	N. G. Herreshoff.
210	Kingston (*a*)	Washington	41 29	71 31	250	Nathaniel Helme.
211	“ (*b*)	“	41 29	71 32	166	R. I. Agr. Exp’t. Station.
203	Lonsdale	Providence	41 55	71 24	116	G. W. Pratt.
204	Newport	Newport	41 32	71 13	75	Thomas Dunn.
205	Olneyville	Providence	41 48	71 29	25	C. H. Cannon.
206	Pawtucket	“	41 54	71 23	56	J. H. Walker.
207	Providence (*a*)	“	41 50	71 25	74	City Engineer’s Office.
208	“ (*b*)	“	41 50	71 25	70	D. W. Hoyt.
209	Woonsocket	“	41 59	71 32	168	Woonsocket Water Works.
238	Birmingham	NewHav’n,Conn.	41 23	73 12	58	H. R. Stevens.
221	Canton	Hartford	41 50	72 55	900*	G. J. Case.
239	Clark’s Falls	New London	41 28	71 50	. .	J. B. Perry,
222	Colchester	“ “	41 33	72 20	370*	Samuel P. Willard.
247	Falls Village	Litchfield	41 55	73 20	600*	M. H. Dean.
223	Hartford (*a*)	Hartford	41 45	72 41	. .	R. Maston.
224	“ (*b*)	“	41 45	72 42	145	Rev. Samuel Hart, D.D.
225	Lake Konomoc	New London	41 26	72 10	185	New London Water Works.
249	Lebanon	“ “	41 38	72 15	. .	J. H. Tucker.
237	Mansfield	Tolland	41 48	72 10	640	E. A. Bailey.
226	Middletown	Middlesex	41 33	72 39	70	H. D. A. Ward.
240	New Britain	Hartford	41 40	72 50	. .	H. F. Wells.
227	New Hartford	Litchfield	41 50	73 01	410	R. R. Smith,
228	New Haven	New Haven	41 17	72 57	107	U. S. Signal Service.
241	Newington	Hartford	41 42	72 48	. .	T. A. Kirkham.
229	New London	New London	41 22	72 09	47	U. S. Signal Service.
250	N. Gros’nr Dale	Windham	41 54	71 54	375	Grosvenor Dale Co.
246	North Woodstock	“	42 00	72 03	. .	L. H. Healey.
230	Shelton	Fairfield	41 19	73 08	35*	Derby Gas Co.
248	South Manchester	Hartford	41 41	72 29	. .	K. B. Loomis.
243	South Woodstock	Windham	41 56	72 00	. .	L. J. Wells.
231	Thompson	“	41 57	71 51	600	Miss E. D. Larned.
232	Uncasville	New London	41 27	72 05	75	W. H. Rathbone
244	Vernon Centre	Tolland	41 48	72 31	. .	E. H. Lathrop.
233	Voluntown	New London	41 36	71 50	260	Rev. E. Dewhurst.
234	Wallingford	New Haven	41 26	72 50	133	Mrs. B. F. Harrison.
235	Waterbury	“ “	41 31	73 05	450	N. J. Welton.
245	West Simsbury	Hartford	41 52	72 54	200*	S. T. Stockwell.
251	Albany	Albany, N. Y.	42 39	73 45	83	U. S. Signal Service.
252	Boyd’s Corners	Putnam	41 29	73 43	546	Thomas Manning.
253	Carmel	“	41 26	73 40	510	“ “
254	New York (*a*)	New York	40 46	73 58	97	Dr. D. Draper.
255	New York (*b*)	“ “	40 43	74 00	185	U. S. Signal Service.
258	Poughkeepsie	Dutchess	41 41	73 55	. .	Vassar College Observatory.
256	Setauket	Suffolk	40 58	73 05	40*	S. B. Strong.
257	S. E. Reservoir	Putnam	41 23	73 38	300	Thomas Manning.

Nos. 184, 211 and 250 began observations before the end of the year although their reports were not published until Jan. 1891.

TABLE II.

SUMMARY OF OBSERVATIONS FOR YEAR 1890.

No.	Station.	Temperature.						Precipitation.		Rainy Days.	
						Mean.					
		Mean Daily Range.	Highest.	Lowest.	Absolute Range.	Max. and Min.	Tri-Daily.	Rain and Snow.	Unmelted Snow.	Total.	Monthly Average.
		1	2	3	4	5	6	7	8	9	10
		°	°	°	°	°	°	in.	in.		
1	St. John, N.B. . .	13.3	77	—19	86	40.8	40.7	60.40	74	159	13
2	Bar Harbor, Me. .	15.6	86	—12	78	43.5	. .	52.38	78	152	13
3	Belfast	. .	84	— 8	92	. .	42.5	. .	92	. .	. .
14	Calais	17.4	90	—10	100	42.3	. .	54.46	97	125	10
4	Eastport	13.1	82	—18	100	41.2	. .	45.02	68	173	14
5	Fairfield	20.9	92	—26	118	41.3	. .	43.07	70	167	14
7	Kent's Hill	16.9	88	—12	100	40.8	. .	49.51	. .	. .	. .
8	Lewiston	19.4	93	—16	109	41.7	40.9	52.75	106	160	13
10	Orono	17.9	90	—36	126	41.7	41.8	53.23	. .	167	14
11	Petit Manan	. .	75	— 8	83	. .	43.2	. .	. .	. .	. .
12	Portland	14.2	93	— 4	96	44.2	. .	51.97	74	151	13
15	West Jonesport . .	. .	78	—12	90	. .	41.6	. .	. .	. .	. .
33	Berlin Falls, N. H. .	26.4	93	—31	124	38.1	. .	. .	. .	. .	. .
34	Berlin Mills	. .	93	—30	123	. .	. .	50.17	137	138	12
37	Concord	19.6	91	—11	102	45.2	. .	47.41	82	133	11
39	Hanover (*a*) . . .	19.4	91	—20	111	42.7	42.9	44.42	92	134	11
58	" (*b*) . . .	23.2	94	—24	118	43.4	42.6	43.90	86	144	12
42	Manchester (*b*) . .	19.3	92	—10	102	47.7	46.4	50.32	79	145	12
43	" . (*c*) . . .	18.8	93	— 5	98	45.8	. .	45.70	90	155	13
45	Nashua	21.3	95	— 4	99	46.5	46.6	53.02	84	136	11
57	Newton	20.6	94	— 5	99	45.6	. .	47.39	86	115	10
47	North Conway . .	23.1	92	—16	108	42.2	. .	. .	. .	. .	. .
49	Plymouth	24.2	96	—16	112	41.8	. .	51.07	103	147	12
51	Stratford	23.6	93	—25	118	42.8	. .	43.70	88	119	10
52	Walpole	21.3	90	—15	105	43.1	. .	47.71	81	138	12
54	West Milan	24.6	89	—32	121	39.1	. .	48.49	116	129	11
71	Brattleboro' (*a*), Vt.	21.2	96	—10	106	46.3	45.5	52.97	83	. .	. .
72	" (*b*) . .	18.1	93	— 4	97	47.5	46.4	. .	. .	. .	. .
74	Chelsea	. .	83	—12	95	. .	41.3	45.61	116	170	14
88	Hartland	20.9	92	—18	110	43.9	. .	45.03	77	133	11
77	Jacksonville	23.6	92	—16	108	44.0	43.0	59.07	117	172	14
78	Lunenburgh	15.6	90	—14	104	43.4	43.9	45.83	96	141	12
82	Northfield	19.2	89	—22	111	40.4	. .	38.17	84	186	16
83	Strafford	. .	88	—16	104	. .	42.9	51.30	116	110	9
85	Vernon	. .	98	—10	108	. .	46.3	49.36	. .	. .	. .
89	Weathersfield Ctr. .	17.6	89	—10	99	42.5	. .	. .	. .	. .	. .
101	Amherst (*a*), Mass.	. .	92	— 5	97	. .	47.4	50.24	30	. .	. .
102	" (*b*)	19.9	92	—10	102	46.6	46.4	46.32	41	135	11
177	" (*c*)	21.9	94	— 6	100	46.9	47.7	48.49	44	141	12
180	Andover	17.9	92	— 1	93	47.1	. .	. .	. .	. .	. .
104	Blue Hill (sum't). .	17.4	92	— 1	93	46.3	46.0	50.79	51	140	12
105	" " (base) .	[illegible]8.2	92	0	92	47.7	. .	51.36	. .	. .	. .
174	" " (valley) .	[illegible].6	94	— 3	97	47.5	. .	48.73	. .	. .	. .
106	Boston (*a*)	[illegible].1	95	0	95	49.1	. .	39.14	50	144	12
175	Brewster	[illegible].6	95	7	88	49.8	49.8	45.78	35	113	9
108	Cambridge (*a*) . .	[illegible].1	91	0	91	47.6	. .	43.60	. .	112	9
109	" (*b*) . .	18.0	93	2	91	48.2	. .	54.90	. .	132	11
110	Chestnut Hill . . .	20.5	94	— 2	96	48.2	. .	50.21	41	127	11
114	Cotuit	13.8	90	5	85	48.6	. .	50.46	31	119	10
116	Deerfield	. .	98	— 9	107	. .	46.4	. .	. .	. .	. .
117	Dudley	20.7	91	— 2	93	48.8	. .	44.53	29	107	9
120	Fitchburg (*a*) . . .	. .	92	— 4	96	. .	45.9	51.89	64	149	12
121	" (*b*) . . .	18.6	92	— 6	98	46.8	. .	54.84	68	135	11
122	Framingham	21.2	95	— 3	98	48.6	. .	52.67	. .	146	12

SUMMARY OF OBSERVATIONS FOR YEAR 1890.

No.	Station.	Temperature.						Precipitation.		Rainy Days.	
		1 °	2 °	3 °	4 °	5 °	6 °	7 °	8 °	9	10
123	Gilbertville, Mass. .	21.6	92	— 6	98	46.9	. .	57.64	58	. .	. .
124	Groton	19.0	92	— 7	99	47.4	. .	54.61	84	136	11
178	Kendal Green . . .	12.5	94	— 4	98	49.3	. .	50.54	57	106	9
127	Lake Cochituate . .	26.4	97	— 5	102	47.8	. .	51.23	. .	128	11
128	Lawrence	20.8	100	— 3	103	47.8	. .	50.58	64	150	12
129	Leicester	16.6	90	— 2	92	45.4	45.3	51.86	51	. .	. .
131	Long Plain	11.7	90	1	89	49.2	. .	62.54	. .	137	11
133	Lowell (*b*)	17.6	92	— 4	96	48.4	. .	51.00	. .	136	11
136	" (*c*)	19.0	94	— 2	96	46.7	. .	. .	. .	. .	. .
176	" (*d*)	19.6	98	0	98	48.3	. .	. .	. .	95	8
134	Ludlow	21.1	91	—13	104	45.2	. .	54.29	39	157	13
135	Lynn	14.5	91	1	90	46.6	. .	53.76	. .	145	12
139	Middleboro	19.8	91	0	91	48.5	. .	53.81	28	111	9
140	Milton	20.0	94	0	94	46.1	. .	51.50	36	114	10
141	Monson	23.3	93	—10	103	46.2	. .	47.66	43	150	12
173	Nahant	14.7	91	6	85	47.9	. .	. .	. .	. .	. .
146	Nantucket	10.7	82	11	71	49.0	. .	43.80	. .	155	13
147	New Bedford (*a*) .	16.0	90	3	87	48.3	48.2	61.69	26	123	10
148	" " (*b*) .	16.7	93	2	91	49.1	. .	59.01	21	157	13
149	Newburyport (*a*) .	18.2	94	— 2	96	47.9	47.2	50.70	69	149	12
152	Northampton . . .	17.8	96	0	96	48.8	. .	54.30	. .	116	10
153	Plymouth	. .	90	7	83	. .	49.9	52.46	19	131	11
160	South Hingham . .	. .	. .	— 4	. .	. .	. .	55.37	41	132	11
161	Springfield	16.5	95	3	92	48.8	49.5	54.80	45	150	12
163	Taunton (*a*)	19.6	94	2	92	49.8	49.0	52.89	41	133	11
164	" (*b*)	19.8	93	2	91	49.4	. .	54.07	44	140	12
165	" (*c*)	21.5	94	— 4	98	48.4	. .	54.38	. .	141	12
181	Wakefield	16.4	93	— 3	96	46.9	. .	51.37	66	. .	. .
168	Wellesley	21.3	93	— 6	99	48.8	. .	. .	. .	. .	. .
169	Westboro'	20.5	98	— 2	100	49.8	. .	47.62	67	148	12
201	Block Island, R.I. .	10.7	85	10	75	49.7	. .	31.51	14	141	12
202	Bristol	14.3	88	5	83	49.8	49.3	46.79	33	155	13
210	Kingston	17.8	91	3	88	48.4	. .	57.57	40	124	10
205	Olneyville	16.7	93	5	88	51.2	. .	. .	. .	. .	. .
207	Providence (*a*) . .	16.1	96	6	90	50.9	50.2	50.60	42	147	12
208	" (*b*) . .	20.6	95	2	93	49.2	. .	46.16	35	139	12
221	Canton, Conn. . . .	. .	92	— 4	96	. .	. .	51.78	38	111	9
222	Colchester	19.2	91	2	89	48.6	. .	. .	. .	. .	. .
223	Hartford (*a*) . . .	17.0	93	0	93	50.0	. .	. .	43	. .	. .
237	Mansfield	18.5	89	— 7	96	46.8	46.6	48.87	34	144	12
226	Middletown	18.5	94	0	94	49.4	48.5	51.60	36	130	11
228	New Haven	15.9	91	4	87	49.6	. .	48.95	20	156	13
229	New London . . .	13.3	88	7	81	50.5	. .	48.85	41	158	13
230	Shelton	18.5	93	0	93	48.5	. .	. .	. .	. .	. .
231	Thompson	11.0	88	—10	98	47.7	46.6	. .	. .	. .	. .
233	Voluntown	. .	92	. .	. .	. .	48.4	52.36	26	110	9
235	Waterbury	17.1	96	— 3	99	48.1	. .	51.52	35	133	11
251	Albany, N. Y. . . .	16.8	98	— 4	102	48.2	. .	44.89	47	175	15
252	Boyd's Corner . . .	. .	97	1	96	. .	50.6	54.26	32	130	11
253	Carmel	19.1	92	0	92	49.8	. .	54.76	29	129	11
254	New York (*a*) . . .	. .	98	7	91	. .	52.6	45.63	29	132	11
255	" " (*b*) . . .	15.0	95	6	89	53.8	. .	52.30	46	144	12
258	Poughkeepsie . . .	22.2	98	— 8	106	48.5	. .	43.60	. .	119	10
256	Setauket	14.5	91	8	83	51.8	51.2	54.14	21	122	10

APPENDIX TO TABLE II.

STATIONS REPORTING PRECIPITATION ONLY.

[Total Precipitation and Unmelted Snow in Year 1890.]

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H.	49.74	. .	159	Salem, Mass.	49.50	67
40	Lake Village, "	53.12	. .	166	Waltham, "	51.02	. .
44	Mine Falls, "	54.21	. .	171	Winchester, "	47.67	. .
48	Pennichuck St'n., "	53.14	. .	203	Lonsdale, R. I.	52.60	39
53	Weir's Bridge, "	52.14	. .	206	Pawtucket, "	49.04	38
55	Wolfboro', "	53.10	. .	238	Birmingham, Conn.	50.85	31
75	Cornwall, Vt.	37.92	50	247	Falls Village, "	51.16	56
107	Boston (*b*), Mass.	46.53	. .	224	Hartford (*b*), "	50.01	30
112	Clinton, "	47.53	. .	225	Lake Konomoc, "	56.93	. .
119	Fiskdale, "	45.55	. .	249	Lebanon, "	49.10	40
130	Leominster, "	54.18	64	227	New Hartford, "	50.05	. .
138	Medford, "	47.33	. .	248	So. Manchester, "	47.88	. .
142	Mt. Nonotuck, "	50.69	50	232	Uncasville, "	59.83	28
143	Mystic Lake, "	50.64	. .	234	Wallingford, "	49.69	. .
144	Mystic Pmp'g Sta., "	47.64	. .	245	West Simsbury, "	48.38	34
150	Newburyport (*b*), "	41.74	. .	257	S. E. Reservoir, N. Y.	55.20	. .
179	Robert's Dam, "	50.96	44				

TABLE III.

MONTHLY MEAN PRESSURE AND RELATIVE HUMIDITY FOR 1890.

No.	STATION.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
		Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.
1	St. John, N. B.	30.10	96	30.05	92	29.89	86	29.99	77	29.98	84	29.92	85
4	Eastport, Me.	30.09	74	30.05	74	29.89	77	30.00	65	29.97	80	29.93	78
12	Portland	30.13	76	30.07	78	29.94	76	30.04	61	29.94	85	29.94	82
43	Manchester(*c*), N.H.	30.17	77	30.09	78	29.98	75	30.07	55	29.96	70	29.97	68
45	Nashua	30.15	77	30.08	76	29.96	75	30.05	58	29.94	70	29.95	67
71	Brattleboro(*a*), Vt.	30.13	86	30.08	84	29.99	84	30.07	75	29.94	81	29.97	80
82	Northfield	30.17	79	30.11	75	30.01	78	30.08	65	29.95	72	29.91	75
177	Amherst(*c*), Mass.	30.19	68	30.10	75	29.99	77	30.10	65	29.96	67	29.98	71
104	Blue Hill	30.14	76	30.07	78	29.96	72	30.06	67	29.96	80	29.96	77
106	Boston(*a*)	30.17	73	30.10	74	29.99	72	30.09	63	29.98	74	29.98	70
175	Brewster	30.16	80	30.09	78	29.97	80	30.07	74	29.99	84	29.98	85
129	Leicester	30.14	. .	30.00	. .	29.98	. .	30.04	. .	29.94	. .	29.94	. .
176	Lowell(*d*)	30.13	78	30.06	81	29.96	78	30.02	70	29.94	81	29.94	74
146	Nantucket	30.18	83	30.10	83	29.98	83	30.09	77	30.00	83	29.98	83
149	Newburyport(*a*)	30.15	69	30.08	70	29.96	72	30.06	61	29.96	75	29.96	72
161	Springfield	30.17	75	30.08	76	29.98	73	30.07	56	30.03	66	29.96	68
163	Taunton(*a*)	30.14	. .	30.06	. .	29.95	. .	30.05	. .	29.94	. .	29.94	. .
201	Block Island, R. I.	30.20	82	30.12	82	30.02	82	30.10	78	30.00	90	30.00	87
207	Providence(*a*)	30.13	74	30.05	73	29.95	74	30.05	63	29.96	79	29.96	73
237	Mansfield, Conn.	30.18	77	30.09	81	29.99	81	30.09	67	29.96	79	29.98	77
228	New Haven	30.20	79	30.12	81	30.02	78	30.11	72	29.99	80	29.98	75
229	New London	30.18	73	30.11	73	30.00	70	30.08	64	29.97	77	29.97	74
251	Albany, N. Y.	30.21	78	30.14	80	30.05	81	30.10	71	29.96	75	29.97	70
254	New York(*a*)	30.18	79	30.09	75	30.01	76	30.10	68	29.99	75	30.02	79
255	New York(*b*)	30.22	70	30.12	76	30.04	72	30.11	63	29.99	73	30.00	71
256	Setauket	30.21	. .	30.12	. .	30.03	. .	30.12	. .	30.00	. .	30.02	. .
	Mean	30.16	77	30.09	78	29.98	77	30.07	67	29.97	77	29.97	76

The highest (reduced) barometric readings for New England in 1890 (table IV) occurred everywhere on January 1st, and were a continuation of the anticyclone which gave the highest pressure for 1889 on the last day of that year. It must be rare that the same anticyclonic conditions will give a maximum pressure to two years. The lowest readings (table V) show no such marked uniformity, the dates of lowest pressure being different at the various stations. The unusually low mean pressure in October and, in a less degree, in March shows a marked dependance upon the path of the cyclones as they pass New England. In October only three of the nine cyclones passed to the north of New England (page 10) and in March only three out of ten, the others passing either across or to the south and east; while in September, a month with high pressure, five of the seven cyclones passed to the north, the other two passing to the south of our district.

MONTHLY MEAN PRESSURE AND RELATIVE HUMIDITY FOR 1890.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.
1	29.98	85	29.97	91	30.07	90	29.84	87	29.92	89	29.91	96	29.97	88
4	29.98	81	29.96	86	30.08	83	29.84	76	29.94	74	29.92	70	29.97	76
12	29.99	80	29.98	83	30.10	86	29.88	81	29.98	75	29.99	75	30.00	78
43	30.01	69	30.00	75	30.13	81	29.90	78	30.01	70	30.03	74	30.03	72
45	29.99	67	29.98	75	30.10	83	29.88	82	29.98	75	30.01	70	30.00	73
71	30.01	80	30.00	81	30.12	86	29.92	86	30.03	83	30.05	81	30.03	82
82	30.00	77	30.00	80	30.13	85	29.93	83	30.01	79	30.08	74	30.04	77
177	30.02	70	30.00	75	30.12	81	29.88	69	30.01	68	30.01	67	30.03	71
104	30.00	74	29.98	79	30.10	84	29.86	79	30.00	75	30.00	72	30.01	76
106	30.02	67	30.01	76	30.13	79	29.90	79	30.02	77	30.02	75	30.04	73
175	30.03	82	30.01	87	30.13	86	29.87	84	30.01	82	30.00	84	30.03	82
129	29.99	. .	29.98	. .	30.08	. .	29.86	. .	29.99	. .	29.99	. .	30.00	. .
176	29.94	77	29.98	81	30.09	86	29.87	85	29.99	78	30.01	83	29.99	79
146	30.04	85	30.03	85	30.13	84	29.88	77	30.03	82	30.01	83	30.04	82
149	30.01	74	30.00	78	30.12	83	29.88	79	29.99	71	30.00	65	30.02	73
161	30.01	65	30.00	73	30.11	80	29.89	75	30.01	76	30.04	78	30.03	71
163	29.99	. .	29.98	. .	30.09	. .	29.84	. .	29.98	. .	29.98	. .	30.00	. .
201	30.05	87	30.03	87	30.15	87	29.89	80	30.05	77	30.04	71	30.05	82
207	30.01	71	29.99	76	30.10	83	29.84	79	29.99	72	29.98	66	30.00	74
237	30.03	78	30.01	82	30.13	87	29.89	79	30.01	75	30.05	74	30.03	78
228	30.03	75	30.01	82	30.13	85	29.90	80	30.05	76	30.05	73	30.05	78
229	30.02	76	30.00	80	30.12	82	29.89	76	30.03	71	30.03	64	30.03	73
251	30.02	70	30.01	73	30.14	82	29.92	81	30.05	79	30.09	78	30.06	77
254	30.07	81	30.05	79	30.14	77	29.89	73	30.04	72	30.03	61	30.05	75
255	30.04	72	30.03	77	30.14	79	29.91	72	30.07	76	30.07	72	30.06	73
256	30.07	. .	30.06	. .	30.16	. .	29.91	. .	30.07	. .	30.07	. .	30.07	. .
M	30.01	76	30.00	80	30.12	83	29.88	80	30.01	76	30.02	74	30.02	77

TABLE IV.

MAXIMUM PRESSURE AND DATE FOR 1890.

No.	Station.	January.		February.		March.		April.		May.		June.	
		Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.
4	Eastport, Me. . .	30.90	1	30.76	2	30.48	25	30.45	26	30.41	22	30.26	16
12	Portland	30.87	1	30.74	2	30.54	25	30.50	26	30.34	22	30.23	16
43	Manchester(*c*),N.H.	30.87	1	30.73	2	30.54	25	30.51	2	30.35	22	30.28	16
45	Nashua	30.93	1	30.74	7	30.58	25	30.55	2	30.37	22	30.28	16
82	Northfield, Vt. . .	30.78	1	30.74	7	30.53	9	30.49	2	30.34	22	30.25	10
177	Amherst (*c*), Mass.	30.94	1	30.72	7	30.54	25	30.58	2	30.32	22,23	30.28	16
104	Blue Hill	30.94	1	30.72	7	30.56	25	30.54	2	30.32	22	30.28	16
106	Boston (*a*)	30.89	1	30.69	2	30.56	25	30.54	2	30.34	22	30.31	16
175	Brewster	30.90	1	30.67	7	30.55	25	30.53	2	30.30	22	30.30	16
129	Leicester	30.87	1	30.68	7	30.54	25	30.52	2	30.29	22	30.23	16
176	Lowell (*d*)	30.88	1	30.76	2	30.50	25	30.48	2	30.33	22	30.26	10
146	Nantucket	30.99	1	30.65	2	30.56	25	30.55	2	30.28	25	30.30	16
149	Newburyport (*a*)	30.94	1	30.74	7	30.56	25	30.51	2	30.36	22	30.29	16
163	Taunton (*a*) . . .	30.85	1	30.66	. .	30.54	25	30.53	2	30.27	25	30.26	16
201	Block Island, R.I.	30.86	1	30.65	7	30.58	25	30.57	2	30.32	22	30.30	10
207	Providence (*a*) . .	30.88	1	30.67	7	30.53	25	30.51	2	30.30	22	30.28	16
237	Mansfield, Conn. .	30.83	1	30.68	7	30.54	25	30.56	2	30.33	21	30.28	10
228	New Haven . . .	30.83	1	30.67	7	30.54	10	30.60	2	30.33	22	30.30	10
229	New London . . .	30.82	1	30.66	2	30.54	25	30.56	2	30.30	22	30.27	16
251	Albany, N.Y. . .	30.78	1	30.71	7	30.55	9	30.60	2	30.32	22	30.29	10
254	New York (*a*) . .	30.81	1	30.64	7	30.55	9	30.62	2	30.31	22	30.34	9
255	New York (*b*) . .	30.78	1	30.59	10	30.55	10	30.63	2	30.31	22	30.31	9
256	Setauket	30.84	1	30.67	7	30.56	8, 10	30.59	2	30.33	22	30.32	9, 16

TABLE V.

MINIMUM PRESSURE AND DATE FOR 1890.

No.	Station.	January.		February.		March.		April.		May.		June.	
		Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.
4	Eastport, Me. . . .	29.31	8	29.24	5	29.10	17	29.52	10	29.64	31	29.60	26
12	Portland	29.28	8	29.25	5	29.36	17	29.44	10	29.57	6	29.65	25
43	Manchester (*c*),N.H.	29.35	8	29.30	5	29.44	16	29.45	4	29.62	5	29.70	25
45	Nashua	29.43	13	29.26	5	29.40	16	29.42	10	29.51	20	29.67	25
82	Northfield, Vt. . .	29.34	8	29.25	5	29.48	18, 29	29.45	9	29.57	5	29.73	25
177	Amherst (*c*), Mass.	29.44	8	29.37	5	29.48	16	29.50	9,10	29.52	20	29.69	25
104	Blue Hill	29.34	8	29.36	20	29.37	16	29.40	9	29.53	20	29.65	26
106	Boston (*a*)	29.39	8	29.35	5	29.43	16	29.50	4	29.63	6	29.71	25
175	Brewster	29.37	8	29.44	5	29.36	16	29.46	9	29.65	6	29.68	25
129	Leicester	29.41	9	29.38	5	29.43	16	29.45	9	29.54	20	29.69	25
176	Lowell (*d*)	29.39	8	29.33	5	29.41	16	29.45	10	29.57	6	29.67	25
146	Nantucket	29.41	8	29.55	15	29.36	28	29.48	9	29.64	6	29.68	25
149	Newburyport (*a*) .	29.31	8	29.29	5	29.37	16	29.40	9	29.57	6	29.67	26
163	Taunton (*a*) . . .	29.37	8	29.35	. .	29.41	16	29.42	9	29.60	6	29.62	26
201	Block Island, R.I. .	29.43	8	29.49	5	29.42	28	29.54	9	29.65	5	29.74	25
207	Providence (*a*) . .	29.37	8	29.35	5,20	29.36	28	29.38	9	29.56	6	29.67	25
237	Mansfield, Conn. .	29.44	8	29.42	5	29.46	28	29.46	9	29.58	20	29.72	25
228	New Haven	29.49	8	29.48	14	29.46	28	29.47	9	29.63	5	29.72	23
229	New London . . .	29.59	16	29.48	14	29.42	28	29.50	9	29.62	5	29.71	25
251	Albany, N. Y. . .	29.69	16	29.36	14	29.49	28	29.39	9	29.55	5	29.76	25,28
254	New York (*a*) . . .	29.49	8	29.48	14	29.33	28	29.46	9	29.60	5	29.78	28
255	“ “ (*b*) . . .	29.55	8	29.52	5,14	29.49	28	29.46	9	29.62	6	29.78	28
256	Setauket	29.54	8	29.52	5	29.42	28	29.50	9	29.61	20	29.80	25

MAXIMUM PRESSURE AND DATE FOR 1890.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.
4	30.25	24	30.26	19	30.43	11	30.43	23	30.45	9	30.63	26	30.90	Jan. 1
12	30.24	22	30.24	19	30.42	11	30.41	23	30.41	9	30.63	26	30.87	Jan. 1
43	30.26	22	30.25	16	30.43	11	30.43	23	30.37	15	30.62	26	30.87	Jan. 1
45	30.25	22	30.27	19	30.43	11	30.42	23	30.39	11	30.61	26	30.93	Jan. 1
82	30.26	22	30.24	16	30.44	11	30.40	23	30.41	11	30.67	25	30.78	Jan. 1
177	30.26	22	30.28	16	30.42	11	30.41	23	30.35	15	30.60	20	30.93	Jan. 1
104	30.24	29	30.25	16	30.39	11	30.42	23	30.37	9	30.64	25	30.94	Jan. 1
106	30.26	22	30.26	19	30.42	11	30.41	22	30.38	9	30.59	25	30.89	Jan. 1
175	30.34	22	30.25	16	30.39	11	30.39	22	30.35	9	30.58	25	30.90	Jan. 1
129	30.20	22	30.24	16	30.36	11	30.33	22	30.31	16	30.60	25	30.87	Jan. 1
176	30.20	23	30.25	19	30.38	11	30.34	22	30.36	7	30.62	16	30.88	Jan. 1
146	30.28	23	30.27	17	30.38	11	30.42	22	30.37	16	30.56	25	30.99	Jan. 1
149	30.26	22	30.27	19	30.43	11	30.43	23	30.39	11	30.65	26	30.94	Jan. 1
163	30.24	23	30.23	19	30.37	. .	30.37	22	30.35	11	30.57	25	30.85	Jan. 1
201	30.28	23	30.28	16	30.39	11, 25	30.39	22	30.39	16	30.59	25	39.86	Jan. 1
207	30.24	23	30.24	16	30.37	11	30.38	22	30.34	9, 16	30.58	25	30.88	Jan. 1
237	30.26	23	30.26	16	30.39	11	30.42	22	30.37	12	30.64	25	30.83	Jan. 1
228	30.25	22	30.24	16	30.39	25	30.39	22	30.36	16	30.60	25	30.83	Jan. 1
229	30.24	22, 23	30.24	16	30.36	25	30.41	23	30.36	16	30.60	25	30.82	Jan. 1
251	30.29	12	30.28	16	30.43	29	30.40	22	30.41	16	30.70	25	30.78	Jan. 1
254	30.28	21	30.30	16	30.36	25	30.35	22	30.38	12	30.59	25	30.81	Jan. 1
255	30.28	21	30.26	16	30.39	25	30.36	22	30.37	16	30.60	25	30.78	Jan. 1
256	30.28	21	30.30	16	30.40	25	30.40	22	30.39	16	30.61	25	30.84	Jan. 1

MINIMUM PRESSURE AND DATE FOR 1890.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.
4	29.46	9	29.25	27	29.69	18	29.08	27	29.34	18	29.14	27	29.08	Oct. 27
12	29.56	9	29.60	27	29.73	18	29.29	27	29.41	18	29.24	27	29.24	Dec. 27
43	29.64	9	29.45	27	29.75	17	29.40	27	29.46	18	29.36	27	29.30	Feb. 5
45	29.58	9	29.42	27	29.68	17	29.26	30	29.28	18	29.34	27	29.26	Feb. 5
82	29.58	8	29.61	27	29.81	23	29.45	28	29.61	2	29.42	10	29.25	Feb. 5
177	29.64	9	29.46	27	29.73	17	29.32	27	29.37	18	29.42	27	29.32	Oct. 27
104	29.61	9	29.45	27	29.68	17	29.20	17	29.22	18	29.32	27	29.20	Oct. 17
106	29.66	9	29.53	27	29.70	17	29.32	17	29.42	18	29.36	27	29.32	Oct. 17
175	29.68	9	29.59	27	29.70	17	29.24	19	29.38	18	29.38	27	29.24	Oct. 19
129	29.62	9	29.56	27	29.69	17	29.31	30	29.26	18	29.30	27	29.26	Nov. 18
176	29.62	9	29.62	27	29.72	17	29.36	29	29.32	18	29.33	27	29.32	Nov. 18
146	29.69	9	29.69	27	29.70	17	29.35	27	29.42	18	29.36	18	29.35	Oct. 27
149	29.57	9	29.40	27	29.72	18	29.28	17	29.30	18	29.30	27	29.28	Oct. 17
163	29.66	9	29.51	27	29.69	. .	29.29	27	29.38	18	29.36	18	29.29	Oct. 27
201	29.72	9	29.62	27	29.73	17	29.30	27	29.52	18	29.45	18	29.30	Oct. 27
207	29.61	9	29.48	27	29.68	17	28.26	17	29.23	18	29.32	27	29.23	Nov. 18
237	29.72	9	29.55	27	29.71	17	29.36	27	29.45	18	29.45	18	20.36	Oct. 27
228	29.73	9	29.55	27	29.74	17	29.35	29	29.59	30	29.33	17	29.33	Dec. 17
229	29.70	9	29.57	27	29.70	17	29.35	29	29.54	18	29.44	18	29.35	Oct. 29
251	29.66	8	29.54	27	29.85	29	29.37	29	29.55	17	29.48	10	29.36	Feb. 14
254	29.76	3	29.60	27	29.81	17	29.31	29	29.41	18	29.41	18	29.31	Oct. 29
255	29.75	3	29.59	27	29.83	17	29.35	29	29.61	30	29.56	27	29.35	Oct. 29
256	29.76	9	29.63	27	29.81	17	29.39	29	29.55	17	29.49	18	29.39	Oct. 29

TABLE VI.

MONTHLY TEMPERATURE NORMALS AND DEPARTURES FOR 1890.

No.	Station.	No. of Years.	January.		February.		March.		April.		May.	
			Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.
1	St. John, N.B. . . .	30	18.1	+0.8	20.8	+0.8	27.7	+2.1	37.5	+0.1	47.2	+1.0
3	Belfast, Me. . . .	31	19.0	+2.0	22.1	+2.8	29.9	+0.5	41.2	+1.1	52.2	—0.9
4	Eastport, " . . .	18	20.1	+0.4	22.2	+1.4	28.6	+0.8	38.3	+0.8	47.3	+0.6
10	Orono, " . . .	22	15.6	+2.0	18.9	+3.7	27.2	+1.7	40.0	—0.2	52.6	—0.5
12	Portland, " . . .	19	22.8	+0.4	25.1	+1.5	31.7	—1.0	43.2	—1.1	54.3	—2.2
37	Concord, N.H. . . .	22	21.5	+3.5	24.7	+3.3	30.9	—0.7	44.7	—0.9	57.0	+0.2
39	Hanover (*a*), " . . .	. .	16.4	+6.6	18.8	+6.6	28.2	—0.4	40.8	+0.7	54.5	+0.2
78	Lunenburgh, Vt. . . .	40	15.5	+6.4	17.2	+7.5	25.5	+1.9	38.0	+2.8	54.1	+2.8
83	Strafford, " . . .	16	16.2	+6.1	18.7	+3.4	26.2	—0.7	41.1	+0.9	56.5	—2.1
101	Amherst (*a*), Mass. . . .	53	23.5	+8.3	24.8	+7.4	32.7	—0.1	45.2	+1.4	57.0	—0.1
106	Boston (*a*), " . . .	20	26.2	+6.2	28.0	+5.2	33.8	+1.1	44.5	+1.8	56.3	+0.7
108	Cambridge (*a*), " . . .	68	24.9	+4.4	26.1	+6.7	33.8	—1.6	44.3	+0.9	56.1	+0.7
120	Fitchburg (*a*), " . . .	34	22.4	+6.1	24.2	+4.5	30.4	0.0	42.5	+1.5	55.5	+1.2
147	New Bedford (*a*), " . . .	78	28.3	+5.3	28.9	+5.1	34.9	—1.1	44.5	+0.2	54.7	—0.2
149	Newburyport (*a*), " . . .	12	25.2	+4.5	26.7	+4.6	32.2	+0.8	44.0	+0.9	55.3	+0.7
161	Springfield. " . . .	23	24.8	+7.9	25.9	+7.3	32.7	+0.5	46.2	+2.5	59.3	+0.6
163	Taunton (*a*), " . . .	19	27.0	+7.5	28.3	+6.4	32.1	+2.1	46.2	—0.4	58.7	—2.2
164	Taunton (*b*), " . . .	20	32.4	+1.3	28.5	+6.5	35.0	—0.3	46.3	—0.2	58.6	—1.2
201	Block Island, R.I. . . .	10	31.3	+6.6	31.8	+5.2	34.4	+0.9	43.4	+0.6	52.4	0.0
207	Providence (*a*), " . . .	59	27.0	+7.8	27.8	+7.3	34.4	+0.5	45.5	+2.0	56.3	+1.5
226	Middletown, Conn. . . .	32	25.1	+8.6	26.9	+7.3	33.3	—0.6	45.5	+1.4	57.1	0.0
228	New Haven, " . . .	104	26.7	+8.7	28.3	+7.2	35.8	—1.6	46.8	+0.2	57.3	—0.5
229	New London, " . . .	20	28.8	+7.9	29.8	+7.0	35.2	+0.9	45.7	+1.5	56.5	—0.2
231	Thompson, " . . .	30	21.4	+8.8	26.2	+3.9	31.9	+1.6	44.2	+1.7	56.5	—0.9
235	Waterbury, " . . .	15	25.2	+6.6	27.4	+6.3	33.2	—1.6	46.3	—0.6	57.9	—0.7
251	Albany, N.Y. . . .	17	23.2	+7.4	24.9	+6.3	31.7	—0.7	45.7	+1.6	59.4	—2.3
254	New York (*a*), " . . .	20	29.4	+8.2	30.9	+7.0	36.0	—0.4	48.1	+1.0	60.5	—0.3
M	Mean for New England . . .		23.6	+5.6	25.3	+5.3	31.8	+0.2	43.7	+0.8	55.6	—0.1
M′	Mean for Maine		19.4	+1.2	22.1	+2.4	29.4	+0.5	40.7	+0.2	51.6	—0.8
M″	Mean for Massachusetts . .		26.1	+5.7	26.8	+6.0	33.1	+0.2	44.9	+1.0	56.8	0.0
M‴	Mean for Connecticut . . .		25.4	+8.1	27.7	+6.3	33.9	—0.3	54.7	+0.8	57.1	—0.7

NOTES.—(4) Eastport: January, February, March, October, November, mean for 17 years.

(37) Concord: September to December, mean for 23 years.

(39) Hanover (*a*): August, mean for 20 years; July, 21 years; January and February, 27 years; December, 49 years; May and October, 51 years; March, April, June, September, November, 52 years.

(83) Strafford: January and February, mean for 15 years.

(120) Fitchburg (*a*): January, mean for 33 years.

MONTHLY TEMPERATURE NORMALS AND DEPARTURES FOR 1890.

No.	June.		July.		August.		September.		October.		November.		December.		Year.	
	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.
1	54.3	+0.5	60.0	+1.3	60.2	+1.6	55.3	+2.3	45.7	—1.5	35.5	+0.2	22.6	—6.2	40.4	+0.2
3	61.3	—3.0	66.3	—1.6	64.9	—1.3	56.5	+0.8	46.9	—0.6	36.1	—1.0	24.4	—9.3	43.4	—0.9
4	55.2	—1.2	60.4	+0.4	60.5	+0.9	55.6	+1.4	46.8	—0.2	36.2	—0.1	25.2	—7.6	41.4	—0.2
10	62.4	—2.9	67.4	—1.2	65.5	—0.7	57.4	+0.6	45.8	—0.3	33.9	+0.8	21.7	—9.5	42.4	—0.5
12	63.6	—2.6	68.8	—1.4	67.1	—1.1	60.0	0.0	49.4	—1.7	38.2	—1.4	27.4	-10.2	46.0	—1.7
37	65.5	—3.1	70.3	—1.5	68.2	—2.1	60.4	+0.1	50.0	—2.6	37.6	—2.0	26.5	—9.3	46.4	—1.3
39	64.2	—0.7	66.7	+0.8	66.7	—2.1	56.7	+0.6	45.0	—0.4	33.6	—1.0	20.1	—7.7	42.6	+0.3
78	64.1	—1.7	68.1	+1.7	65.4	+2.5	56.6	+3.4	44.7	+4.3	31.3	+3.9	19.4	—8.5	41.7	+3.0
83	65.4	—1.6	69.2	—1.3	67.4	—1.5	59.2	—2.0	46.6	—1.0	34.2	+0.4	21.6	—8.2	43.5	—0.6
101	66.1	—0.7	70.6	—0.6	68.2	—1.1	60.1	—1.1	48.7	—0.8	38.3	—0.3	26.9	—5.6	46.8	+0.6
106	66.0	—1.8	70.9	+0.1	69.0	—0.1	62.0	+0.9	51.4	—0.4	40.3	+1.5	30.5	—4.5	48.2	+0.9
108	66.6	—3.3	71.7	—1.7	69.5	—1.6	61.7	—0.3	50.2	—1.7	39.2	+0.2	29.2	—5.2	47.8	—0.2
120	65.6	—2.0	70.3	—0.8	67.7	—1.7	59.6	0.0	48.0	—1.3	36.6	—0.1	28.9	—8.1	46.0	—0.1
147	64.0	—1.1	69.6	—1.7	68.3	—1.1	59.3	+2.9	52.0	—2.3	41.8	—0.7	31.9	—4.5	48.2	+0.1
149	64.8	—1.6	69.2	0.0	67.0	—0.2	60.4	+0.5	49.6	—1.1	39.6	—0.6	29.8	—6.4	47.0	+0.2
161	68.6	—0.3	73.3	—0.9	70.4	—0.6	62.8	—0.6	50.8	—0.4	38.7	+0.5	28.0	—4.1	48.5	+1.0
163	67.7	—3.7	74.1	—5.0	71.5	—2.6	63.4	—1.1	53.1	—3.4	41.4	—0.5	31.1	—3.9	49.6	—0.6
164	68.3	—3.6	74.4	—1.0	71.7	—4.3	63.4	—0.5	53.5	—3.7	41.2	—0.6	30.9	—3.5	50.4	—0.9
201	62.2	—0.7	68.4	—0.8	67.9	0.0	63.5	+0.2	54.1	—0.7	45.5	—0.9	36.1	—4.7	49.2	+0.5
207	66.0	—0.1	71.5	+0.4	69.5	+0.2	62.1	+1.6	51.2	—0.4	40.4	+1.8	30.2	—2.2	48.5	+1.2
226	66.1	--0.2	70.6	—1.6	68.2	—0.4	61.2	—0.1	50.1	—1.0	39.4	+0.1	28.6	—3.9	47.7	+0.8
228	67.0	—1.1	71.7	—2.3	70.2	—1.1	62.6	+0.2	51.4	—0.1	40.5	+1.2	30.8	—4.2	49.1	+0.6
229	65.6	—0.3	71.0	—1.3	69.7	—0.1	63.2	+1.0	53.2	—1.1	42.0	+1.2	32.6	—3.2	49.4	+1.1
231	65.0	—2.3	70.4	—2.3	67.5	—1.7	61.4	—1.6	49.6	—2.3	38.1	—0.7	28.4	—5.7	46.7	—0.1
235	67.4	—1.0	72.0	—2.0	69.4	—0.3	62.7	—0.9	52.1	—2.5	40.3	—2.9	29.0	—6.6	48.6	—0.5
251	68.4	+0.2	72.5	—1.1	70.4	+0.2	62.7	+0.7	51.1	—0.5	39.4	—1.0	28.3	—8.5	48.1	+0.2
254	70.4	—0.3	75.1	—2.0	72.8	—0.1	65.9	+1.2	54.8	—0.3	42.5	+1.4	32.9	—3.0	51.6	+1.0
M	64.9	—1.7	69.9	—1.1	68.0	—0.9	60.9	+0.2	49.8	—1.1	38.5	0.0	27.9	—6.1	46.7	+0.1
M'	60.6	—2.4	65.7	—1.0	63.0	—0.6	57.4	+0.7	47.2	—0.7	36.1	—0.4	24.7	—9.2	43.3	—0.8
M"	66.4	—2.0	71.6	—1.3	69.3	—1.5	61.4	+0.1	50.8	—1.7	39.7	—0.1	29.7	—5.1	48.1	+0.1
M'''	66.2	—1.2	71.1	—1.9	69.0	—0.7	62.2	—0.3	51.3	—1.4	40.1	—0.2	29.9	—4.7	48.3	—0.4

(147) **New Bedford** (*a*) : October to December, mean for 79 years.
(149) **Newburyport** (*a*) : January to May, mean for 11 years.
(161) **Springfield** : December, mean for 24 years.
(164) **Taunton** (*b*) : January, mean for 19 years.
(201) **Block Island** : September to December, mean for 11 years.
(231) **Thompson** : October to December, mean for 35 years.

TABLE VII.

MONTHLY PRECIPITATION NORMALS AND DEPARTURES FOR 1890.

No.	Station.		No. of Years.	January.		February.		March.		April.		May.	
				Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.
1	St. John,	N.B. . .	30	4.92	—0.26	4.88	+0.40	4.94	+4.00	3.34	—0.75	4.39	+3.62
4	Eastport,	Me. . .	18	4.05	—0.29	4.18	+0.40	5.00	+0.85	3.37	—1.42	4.23	+1.96
8	Lewiston,	" . .	16	4.02	—1.02	4.45	—0.31	4.70	+1.18	3.39	—1.22	3.42	+4.09
10	Orono,	" . .	22	4.00	—0.67	4.16	+0.36	4.26	+1.55	2.89	—0.87	3.57	+6.95
12	Portland,	" . .	19	3.53	—0.64	3.64	+0.40	3.44	+2.80	3.01	—0.50	3.25	+2.85
37	Concord,	N.H. . .	34	3.18	—0.30	2.72	+1.48	3.13	+2.54	2.88	—1.00	3.25	+1.80
39	Hanover,	" . .	. .	2.70	—0.22	2.05	+0.70	2.48	+0.76	1.96	—0.39	3.09	+1.93
78	Lunenburgh,	Vt. . .	40	3.01	+0.19	2.87	—0.19	3.25	+0.89	2.67	—0.66	3.51	+3.78
83	Strafford,	" . .	16	3.40	+0.30	3.08	+1.32	3.51	+0.19	2.36	—0.26	3.35	+4.25
101	Amherst (*a*),	Mass. . .	55	3.34	0.00	3.17	+0.95	3.45	+1.80	3.13	—1.45	3.90	+1.41
106	Boston (*a*),	" . .	20	4.21	—2.21	3.57	—1.28	4.28	+1.60	3.60	—1.31	3.58	+0.90
108	Cambridge (*a*),	" . .	49	4.13	—2.16	3.54	—0.69	3.86	+2.67	3.67	—1.64	3.65	+1.41
110	Chestnut Hill,	" . .	18	4.32	—1.80	3.63	—0.51	4.20	+3.44	3.72	—0.79	3.48	+2.32
114	Cotuit,	" . .	11	3.73	—1.45	3.94	—1.29	3.62	+3.44	3.25	—0.45	3.61	—0.08
122	Framingham,	" . .	16	4.14	—1.60	3.93	—0.33	4.57	+3.11	3.30	—0.67	3.18	+1.76
127	Lake Cochituate,	" . .	39	3.81	—1.47	3.58	—0.37	4.21	+3.14	3.99	—1.48	3.93	+1.38
133	Lowell (*b*),	" . .	36	4.08	—1.33	3.58	+0.17	4.25	+2.53	3.72	—1.75	3.63	+2.03
134	Ludlow,	" . .	15	3.59	—0.42	3.58	+0.94	4.08	+2.13	2.62	—0.39	3.23	+2.33
135	Lynn,	" . .	18	4.13	—1.62	3.80	+0.89	4.58	+3.94	3.60	—1.01	3.34	+2.09
143	Mystic Lake,	" . .	15	4.14	—1.35	3.88	—0.52	4.38	+2.51	3.26	—0.80	3.32	+2.87
147	New Bedford (*a*),	" . .	77	3.89	—1.23	3.79	—1.43	4.19	+5.53	3.96	+0.13	4.01	+2.72
149	Newburyport (*a*),	" . .	12	5.04	—2.19	4.49	—0.22	4.23	+2.71	3.10	—1.32	3.89	+2.19
161	Springfield,	" . .	43	3.44	—0.76	3.51	+0.56	3.70	+2.61	3.28	—1.07	4.17	+1.19
164	Taunton (*b*),	" . .	16	5.50	—2.22	4.41	—0.91	4.11	+4.66	3.62	+0.30	3.06	+2.42
166	Waltham,	" . .	66	3.11	—0.81	2.70	+0.58	3.51	+3.53	3.73	—1.22	3.62	+2.04
201	Block Island,	R.I. . .	10	4.70	—2.37	4.97	—3.47	4.03	+1.13	3.06	+0.31	3.97	—0.14
203	Lonsdale,	" . .	11	4.75	—2.04	4.91	—1.65	3.77	+3.41	3.49	+0.53	4.06	+1.52
207	Providence (*a*),	" . .	59	3.93	—1.14	3.61	—0.26	4.03	+4.24	3.68	—0.09	3.64	+1.83
221	Canton,	Conn. . .	29	3.64	—1.17	3.85	+0.54	4.15	+1.65	3.34	—0.99	4.40	+0.61
224	Hartford (*b*),	" . .	19	4.20	—1.80	3.86	—0.22	4.13	+3.13	3.10	—0.10	3.37	+2.65
226	Middletown,	" . .	32	4.22	—1.38	4.06	—0.78	4.59	+2.86	3.22	—0.38	3.72	+1.79
228	New Haven,	" . .	18	4.21	—1.14	4.23	—1.04	4.80	+1.80	3.86	—0.97	3.54	+0.70
229	New London,	" . .	20	4.34	—1.03	4.00	—1.60	4.89	+3.71	3.84	+1.02	3.57	+0.94
234	Wallingford,	" . .	32	4.45	—1.20	4.24	—1.15	4.74	+1.69	3.69	—1.02	4.49	—0.27
251	Albany,	N.Y. . .	17	2.83	—0.55	2.55	—0.03	2.92	+0.80	2.63	—0.99	3.04	+2.15
252	Boyd's Corner,	" . .	24	3.86	—1.89	3.88	+1.06	3.99	+1.57	3.44	—0.41	3.74	+2.00
254	New York (*a*),	" . .	20	3.58	—1.29	3.73	—0.32	3.82	+1.68	3.18	—1.33	2.84	+0.61
M	Mean for New England.			3.97	—1.17	3.76	—0.27	4.06	+2.54	3.31	—0.69	3.73	+2.01
M′	Mean for Maine.			3.90	—0.66	4.11	+0.21	4.35	+1.60	3.16	—1.00	3.62	+3.96
M″	Mean for Massachusetts.			4.04	—1.41	3.69	—0.22	4.08	+3.09	3.47	—0.93	3.60	+1.81
M‴	Mean for Connecticut.			4.18	—1.29	4.04	—0.71	4.55	+2.47	3.51	—0.41	3.85	+1.07

Notes.—(4) Eastport: January, February, March, October, November, mean for 17 years.

(37) Concord: May, July, November, mean for 35 years.

(39) Hanover (*a*): August, mean for 22 years; July, November, 23 years; January, December, 24 years; February, October, 25 years; March, April, 45 years; June, 46 years; May, 47 years; September, 48 years.

(83) Strafford: January and February, mean for 15 years.

(101) Amherst (*a*): August to December, mean for 56 years.

(108) Cambridge (*a*): October to December, mean for 50 years.

(114) Cotuit: January to May, mean for 10 years.

MONTHLY PRECIPITATION NORMALS AND DEPARTURES FOR 1890.

JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		YEAR.	
Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.
3.44	—0.66	3.93	—1.85	3.78	+3.44	3.93	+ 1.84	4.74	—1.55	5.61	—2.11	4.87	+1.51	52.77	+ 7.63
3.78	—1.01	4.38	—2.41	3.40	+1.95	3.44	+1.42	4.61	—2.33	4.58	—1.74	4.20	—1.58	49.22	— 4.20
3.69	+0.02	3.80	+1.03	3.41	+0.06	3.75	+1.38	4.27	+1.20	4.78	—2.89	4.52	+1.03	48.20	+ 4.55
3.40	+0.44	3.39	+0.45	3.51	+1.04	3.43	+1.04	4.49	—1.13	4.46	—1.79	4.04	+0.06	45.60	+ 7.43
3.51	+ 1.02	3.76	—0.18	3.58	—0.59	3.30	+1.58	3.92	+2.90	4.05	—1.74	3.62	+1.46	42.61	+ 9.36
3.29	—0.73	3.87	+0.11	3.99	—0.43	3.52	+1.13	4.06	+3.70	3.09	—1.60	2.65	+1.08	39.63	+ 7.78
3.44	—0.81	3.16	+0.69	3.11	+4.66	3.00	+0.99	2.86	+1.89	2.75	—1.04	2.39	+2.27	32.99	+11.43
3.51	+1.06	3.96	—0.40	3.70	+2.45	3.34	+0.58	3.53	—0.81	3.24	—0.78	2.95	+0.25	39.54	+ 6.49
3.44	—0.54	4.40	—0.40	3.86	+4.99	3.68	+0.27	3.31	+1.49	3.77	—1.77	3.21	+0.09	41.37	+ 9.93
3.75	—1.86	4.55	+1.01	4.37	+1.17	3.49	+2.59	3.84	+3.14	3.82	—2.48	3.54	—0.39	44.35	+ 5.89
3.29	—1.08	3.57	—1.64	4.09	—1.39	3.16	+1.88	4.12	+1.51	4.78	—3.81	3.42	+0.30	45.67	— 6.53
3.04	—0.24	3.47	—2.05	4.64	—1.79	3.60	+0.10	3.51	+4.58	3.65	—2.50	3.69	+1.46	44.45	— 0.85
2.97	—0.37	3.68	—1.25	4.32	—0.95	3.23	+1.66	4.02	+4.76	4.51	—3.14	3.36	+1.40	45.44	+ 4.77
2.95	+0.73	3.40	—1.80	3.60	+1.38	3.54	+2.90	4.22	+5.92	3.56	—2.11	3.60	+0.25	43.02	+ 7.44
2.84	—0.87	3.61	—1.24	4.12	—0.40	3.14	+3.37	4.40	+5.86	4.10	—2.85	3.67	+1.53	45.00	+ 7.67
3.30	—1.52	4.26	—1.95	4.49	—1.15	3.62	+2.85	4.29	+5.82	4.48	—3.24	3.60	+1.66	47.56	+ 3.67
3.37	+0.15	3.91	—0.47	4.71	+0.15	3.29	+1.17	3.82	+3.89	3.86	—2.27	3.78	+0.68	46.00	+ 5.00
3.75	—0.88	4.56	+1.09	3.93	+1.98	3.62	+3.41	3.60	+2.62	3.47	—1.96	3.39	+0.02	43.42	+10.87
2.91	—0.11	3.74	—2.05	4.53	+1.09	3.28	+2.40	3.99	+3.37	4.26	—2.78	3.32	+2.07	45.48	+ 8.28
2.90	+0.44	4.11	—1.77	3.92	—0.20	3.13	+0.69	3.96	+5.33	4.07	—2.71	3.35	+1.73	44.42	+ 6.22
3.19	+2.71	3.37	—1.46	4.29	—0.47	3.54	+4.01	3.88	+6.21	4.29	—2.97	4.11	+1.38	46.58	+15.18
2.89	+0.54	3.64	—0.74	3.70	+1.13	3.21	+0.18	3.88	+3.32	3.96	—2.44	4.03	+1.48	46.06	+ 4.64
3.87	—2.04	4.46	+0.23	4.53	+1.04	3.60	+7.52	4.22	+2.48	3.83	—2.72	3.53	—0.38	46.14	+ 8.66
2.56	+1.33	3.78	—2.56	4.31	—0.28	3.05	+2.30	3.54	+5.97	4.69	—3.78	3.69	+0.52	46.32	+ 7.75
3.14	—0.58	3.78	—1.65	4.50	—0.84	3.38	+1.53	3.79	+6.69	4.07	—2.73	3.05	+2.10	42.38	+ 8.64
3.15	—1.80	3.07	—1.66	2.95	—0.86	3.19	—0.50	4.35	+0.22	3.92	—3.26	3.81	+1.24	45.17	—13.66
2.91	—0.29	3.45	—1.69	4.24	—0.26	3.52	+1.49	4.51	+6.04	3.77	—3.09	4.00	+1.25	47.38	+ 5.22
3.28	—0.60	3.27	—1.46	4.24	—1.63	3.15	+1.67	3.67	+5.52	4.11	—3.37	3.89	+1.39	45.50	+ 5.10
4.62	—1.20	4.69	—0.03	5.02	+0.34	4.11	+1.43	5.05	+2.83	4.49	—3.79	3.72	+0.48	51.08	+ 0.70
3.01	—0.15	4.72	+0.53	4.64	—0.59	3.20	+0.63	3.72	+3.85	3.64	—2.99	3.84	--0.36	45.43	+ 4.58
3.62	—1.46	4.40	—0.24	4.95	—0.29	3.61	+2.36	4.09	+3.43	3.94	—3.19	3.82	+0.64	48.24	+ 3.36
3.26	—0.14	5.37	+1.22	5.50	—2.83	3.91	+1.47	4.14	+3.49	3.96	—3.29	3.61	—0.71	50.39	— 1.44
3.42	—0.48	4.33	—1.26	4.99	—2.56	3.62	+1.89	4.47	+1.96	3.98	—3.12	3.47	+0.46	48.92	— 0.07
3.79	—0.45	4.32	+0.51	5.19	—1.35	3.70	+1.96	4.17	+3.04	3.96	—2.99	4.34	—0.16	51.08	— 1.39
3.85	—1.13	4.00	—1.63	3.76	+1.90	3.65	+5.26	3.50	+2.26	3.10	—1.92	2.81	+0.13	38.64	+ 6.25
3.81	—0.25	4.69	+0.77	4.89	—0.19	4.33	+2.53	4.36	+3.27	3.87	—2.75	3.84	—0.15	48.70	+ 5.56
3.40	+1.27	4.33	+0.16	4.67	—0.30	3.58	+1.05	3.56	+3.00	3.20	—2.49	3.23	+0.47	43.12	+ 2.51
3.32	—0.33	3.92	—0.71	4.19	+0.14	3.43	+1.80	4.01	+3.20	4.00	—2.60	3.62	+0.67	45.32	+ 4.59
3.60	+0.12	3.83	—0.28	3.48	+0.62	3.48	+1.36	4.32	+0.16	4.47	—2.04	4.10	+0.24	46.42	+ 4.29
3.17	—0.23	3.87	—1.14	4.25	+0.03	3.37	+2.43	3.94	+4.47	4.09	—2.78	3.57	+0.99	45.14	+ 6.11
3.62	—0.65	4.64	+0.12	5.05	—1.21	3.69	+1.62	4.27	+3.10	4.00	—3.23	3.80	+0.06	49.20	+ 0.94

(134) Ludlow : January, mean for 14 years.
(135) Lynn : July to December, mean for 19 years.
(147) New Bedford (*a*) : October to December, mean for 78 years.
(149) Newburyport (*a*) : January to May, mean for 11 years.
(164) Taunton (*b*) : June, July, August, October, November, mean for 17 years; September, 18 years.
(166) Waltham : February, mean for 61 years; January, August, December, 65 years.
(201) Block Island : September to December, mean for 11 years.
(234) Wallingford : April to July, mean for 33 years.

TABLE VIII.

MAXIMUM WIND VELOCITY AND TOTAL WIND MOVEMENT FOR 1890.

No.	Station.	January.		February.		March.		April.		May.		June.	
		Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm,t.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.
1	St. John, N.B. .	35	8004	48	7719	25	6476	20	6926	33	5675	26	3874
4	Eastport, Me. . .	45	9802	46	9626	46	7957	38	7374	38	7287	32	6038
12	Portland	36	5958	43	6511	31	5971	36	6629	37	6760	27	5969
43	Manchester(*c*),N.H.	35	4910	36	4630	24	4912	30	4969	23	4361	24	3683
45	Nashua	32	3713	38	3564	23	3409	23	4182	25	4824	19	3672
71	Brattleboro(*a*),Vt.	80	8989	75	6562	45	9273	50	6964	40	7063	30	6281
82	Northfield	54	8366	48	8311	36	6937	48	7988	48	7240	36	6412
177	Amherst(*c*), Mass.	74	4914	59	4616	55	5395	48	5020	58	5284	45	3776
104	Blue Hill	61	16513	59	14297	42	16367	52	13903	52	13554	38	11489
106	Boston(*a*)	44	9593	48	9088	36	10003	40	8887	42	8643	30	7759
175	Brewster	42	10069	38	9412	35	9636	32	6773	34	9806	23	5944
129	Leicester	67	12700	63	11780	49	13872	63	11780	56	9460	56	8580
146	Nantucket	48	9974	48	9473	48	10015	38	8713	60	9411	30	6515
149	Newburyport (*a*) .	37	4698	38	4547	29	4262	30	4372	27	3638	22	2844
201	Block Island, R. I.	66	14898	54	13051	60	14019	48	11350	43	10923	37	9804
207	Providence(*a*) . .	31	7511	34	6669	21	7385	27	6445	27	7041	20	5249
228	New Haven, Conn.	60	6684	39	5226	34	5913	34	4930	30	4883	26	4245
229	New London . . .	36	6650	48	5234	40	5523	27	5447	30	6224	24	4492
251	Albany, N. Y. . .	36	7047	48	6399	37	6656	36	6381	33	6340	28	5488
254	New York(*a*) . .	. .	6539	. .	5536	. .	6679	. .	5346	. .	4663	. .	4046
255	New York(*b*) . .	55	9206	45	8363	38	9765	42	7931	36	7646	38	6734
	Mean		8416		7648		8115		7253		7177		5828

MAXIMUM WIND VELOCITY AND TOTAL WIND MOVEMENT FOR 1890.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.
1	17	2383	23	3647	24	4757	29	6137	28	6077	34	7842	48	69517
4	29	4324	38	5658	24	5431	44	8903	38	7455	54	10971	54	90826
12	28	5380	36	5658	27	5166	33	6135	26	5868	36	6547	43	72552
43	20	3508	24	3597	21	2948	24	3644	26	3936	36	5109	36	50207
45	21	3580	19	3367	21	2805	24	3354	24	4002	29	5332	38	45804
71	18	6973	25	5873	25	4356	35	5753	40	7453	35	8484	80	84024
82	44	6032	36	5827	32	5252	36	4563	40	7109	48	6904	54	80941
177	44	3976	51	4116	32	3507	47	4143	44	4228	70	5673	74	54648
104	88	11885	45	11919	39	11248	63	13749	55	14374	65	17709	65	167007
106	35	7567	27	5370	34	7261	54	8719	41	8285	54	11148	54	102323
175	27	6423	31	5849	28	5890	56	7586	25	7359	44	9626	56	94373
129	58	7940	38	8320	53	8144	62	10137	87	10756	112	13510	112	126979
146	36	6791	34	6369	38	6950	54	10075	36	7764	48	11166	60	103216
149	24	2192	25	2270	23	2076	35	3708	26	3425	43	5342	43	43374
201	38	9402	45	10073	40	9975	78	13910	42	11737	82	16899	82	145541
207	20	5333	24	5258	19	4467	33	5627	30	5693	32	7543	34	74221
228	25	4567	27	4798	25	3933	40	4750	44	5190	52	7388	60	62507
229	48	4652	34	4928	29	4376	42	5463	30	5354	36	7187	48	65530
251	26	5468	30	5728	24	4568	26	4986	34	5369	30	5934	48	70364
254	. .	3841	. .	4547	. .	3613	. .	4908	. .	5515	. .	7643	. .	62876
255	34	6951	34	7288	25	6534	44	8911	42	8224	48	11231	55	98784
M		5675		5736		5393		6912		6918		9009		84075

TABLE IX.

MONTHLY SUMMARY OF OBSERVATIONS FOR 1890.

TABLE X.

DAILY PRECIPITATION AT CERTAIN STATIONS SELECTED GEOGRAPHICALLY.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	29.1	9.3	19.7	48	2, 3	-19	10	19.2	18.9	4.66	18	0	15	c
	Maine.														
2	Bar Harbor . .	31.4	13.9	17.5	56	2	-12	11	22.6	. .	3.64	12	2	15	
3	Belfast	. .	. .	. .	54	2	—7	10, 11	. .	21.0	. .	12	T	. .	a c
14	Calais	25.7	9.5	16.2	54	2	-18	10	17.6	. .	3.95	22	. .	10	
4	Eastport	28.1	12.7	15.4	52	2	-18	10	20.5	. .	3.76	. .	. .	15	
5	Fairfield	28.7	3.3	25.4	53	2	-20	10	16.0	. .	2.55	13	9	14	
6	Gardiner	29.3	10.9	18.4	56	3	—9	10	20.1	20.5	3.18	10	5	14	b
7	Kent's Hill . . .	27.3	7.2	20.1	57	2	-12	10	17.2	. .	1.85	. .	. .	. .	
8	Lewiston	27.4	8.7	18.7	53	2	—9	10	18.0	19.1	3.00	13	6	17	b
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	a b
10	Orono	29.1	7.5	19.5	58	2	-23	10	17.3	17.6	3.33	. .	10	17	b
11	Petit Menan .	. .	. .	. .	50	2	—8	10	. .	24.1	. .	. .	. .	. .	a b
12	Portland	30.7	15.8	14.9	62	2	—3	10	23.2	. .	2.89	. .	. .	15	
15	West Jonesport	. .	. .	. .	45	2	-12	11	. .	23.6	. .	. .	. .	. .	a b
	New Hampshire.														
33	Berlin Falls . .	32.5	3.5	29.0	57	2	-17	25	18.0	. .	. .	. .	. .	. .	
34	Berlin Mills . .	. .	. .	. .	57	2	-12	25	. .	18.8	4.14	24	. .	14	a b
37	Concord	34.4	15.6	18.8	61	2	—7	29	25.0	. .	2.88	13	4	12	
39	Hanover (*a*) .	35.4	12.2	23.1	58	2	—9	29	23.8	23.0	2.48	18	6	15	b
58	" (*b*)	32.6	14.6	18.0	63	2	-12	28	23.6	23.0	2.65	16	6	11	d
41	Manchester (*a*)	. .	. .	. .	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	b
42	" (*b*)	36.0	16.0	20.0	60	2	—4	29	26.0	26.6	3.65	13	3	15	b
43	" (*c*)	35.0	17.0	18.0	62	2	—1	29	26.0	. .	3.02	16	5	15	
45	Nashua	37.0	16.8	20.2	63	2	—2	29	26.9	27.1	2.57	8	2	12	a c
57	Newton	37.3	16.2	21.1	62	2	2	11	26.8	. .	2.58	11	. .	12	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	c
47	North Conway .	32.6	8.9	23.7	61	2	-10	25	20.0	. .	3.07	12	. .	7	
49	Plymouth . . .	28.5	6.2	22.3	53	2	—9	29	17.2	. .	3.85	18	12	15	
51	Stratford	30.9	11.8	19.0	56	2	-15	25	21.4	. .	3.33	15	6	12	
52	Walpole	36.3	14.5	21.8	60	2	—5	28	25.4	. .	3.12	12	4	16	
54	West Milan . .	35.0	6.0	29.0	60	2	-21	25	20.5	. .	4.66	24	. .	14	
	Vermont.														
71	Brattleboro' (*a*)	37.6	19.3	18.3	56	12	0	25, 29	28.4	27.8	3.10	16	. .	. .	c
72	" (*b*)	39.3	22.0	17.3	62	2	5	29	30.6	29.1	. .	. .	. .	. .	c
73	Burlington . . .	35.6	15.4	20.2	59	2	-12	11	25.5	25.0	2.05	16	3	17	c
74	Chelsea	. .	. .	. .	54	2	—7	17	. .	22.1	3.80	22	6	17	a b
38	Hartland . . .	36.5	15.0	21.5	63	2	—4	29	25.8	. .	1.95	12	4	10	
77	Jacksonville . .	35.5	15.8	19.7	55	2	—5	25	25.6	25.7	4.31	19	4	16	c
78	Lunenburgh . .	28.5	13.2	15.3	52	2	—8	19	20.8	21.9	3.20	12	6	12	b
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	a b
82	Northfield . . .	29.8	11.0	18.8	61	2	-10	25	20.4	. .	2.76	11	3	19	d
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	54	2	—6	17	. .	22.3	3.70	21	6	11	a b
85	Vernon	. .	. .	. .	60	2	6	28	. .	28.4	3.31	. .	. .	8	a c
89	Weathersfield Ct.	32.5	17.2	15.3	59	2	—3	9	24.8	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	62	2	5	25	. .	31.8	3.34	4	. .	. .	*b*
102	" (*b*) . .	39.8	21.5	18.3	62	2	4	25	30.6	30.1	2.61	4	. .	14	*b*
177	" (*c*) . .	40.9	21.1	19.6	62	2	4	25	31.0	33.2	2.61	4	. .	14	*e*
180	Andover	37.3	23.7	13.6	64	2	5	10	30.5	. .	. .	. .	. .	. .	*b*
103	Beverly Farms .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*b*
104	Blue Hill (sum't)	39.9	20.7	19.2	62	2	5	11	30.3	30.5	2.63	5	T	. .	*b*
105	" " (base)	42.2	22.2	20.0	64	2	8	11	32.2	. .	. .	5	T	. .	
174	" " (valley)	42.4	21.4	21.0	63	2	2	25	31.9	. .	2.53	4	T	. .	
106	Boston (*a*) . . .	41.0	23.8	17.2	66	2	8	11	32.4	. .	2.00	. .	. .	13	
175	Brewster	43.7	28.7	15.0	59	13	15	24	36.2	37.3	2.43	8	0	10	*d*
108	Cambridge (*a*) .	38.4	20.2	18.2	62	2	6	11	29.3	. .	1.97	. .	. .	10	
109	" (*b*) .	40.3	20.3	20.0	63	2	7	10	30.3	. .	2.94	8	. .	14	
110	Chestnut Hill .	42.8	21.1	21.7	64	2	5	25	32.0	. .	2.52	6	0	12	
114	Cotuit	41.3	27.2	14.1	63	13	10	23, 25	34.2	. .	2.28	7	0	10	
116	Deerfield	. .	. .	. .	60	2	8	25	. .	29.8	. .	. .	. .	. .	*a b*
117	Dudley	44.9	23.8	21.1	59	13	8	10	34.4	29.4	1.65	5	. .	10	*b*
118	Fall River . . .	42.5	24.4	18.1	59	13	8	23	33.4	. .	3.02	. .	. .	13	
120	Fitchburg (*a*)	. .	. .	. .	58	2	7	10	. .	28.5	3.13	12	2	15	*a b*
121	" (*b*)	38.7	19.1	19.5	60	2	6	10	28.9	. .	3.24	11	3	12	
122	Framingham . .	43.2	21.4	21.8	65	2	6	11, 25	32.3	. .	2.54	. .	. .	13	
123	Gilbertville . . .	42.7	21.5	21.2	58	3	9	29	32.1	. .	3.42	4	0	. .	*f*
124	Groton (*a*) . .	39.2	20.3	18.0	64	2	6	11, 25	29.7	. .	2.85	11	4	13	
125	" (*b*) . .	38.2	16.1	22.1	57	13	5	10, 11	27.2	. .	. .	. .	2	. .	
126	Holyoke	42.4	21.9	20.5	60	3, 4	9	11	31.2	. .	2.40	. .	0	10	*b*
178	Kendall Green .	36.6	26.2	10.4	65	2	2	25	31.4	. .	2.56	4	. .	9	
127	Lake Cochituate	42.5	16.2	26.3	66	1	—3	25	29.4	. .	2.34	. .	. .	12	
128	Lawrence . . .	39.2	18.1	21.1	62	2	3	25	28.6	. .	2.47	9	T	12	
129	Leicester	35.7	20.8	14.9	58	2	6	10, 11	28.3	28.9	2.96	5	T	12	*b*
131	Long Plain . . .	39.4	27.6	11.7	62	12	6	25	33.5	33.4	3.07	2	. .	15	*a*
133	Lowell (*b*) . .	36.9	20.1	16.8	62	2	6	24	28.5	. .	2.75	13	2	12	
136	" (*c*) . . .	38.2	19.2	19.0	66	2	3	24	28.7	. .	. .	. .	. .	. .	
176	" (*d*) . . .	37.1	20.9	16.2	65	2	6	11	29.0	. .	. .	. .	. .	. .	
134	Ludlow	40.2	20.8	19.4	58	2, 3	3	25	30.5	. .	3.17	4	T	15	
135	Lynn	39.7	21.8	17.9	63	2	8	10	30.8	. .	2.51	13	. .	16	
137	Mansfield	42.0	22.7	19.3	63	2	—2	25	32.4	. .	4.15	5	0	10	
139	Middleboro' .	41.7	24.0	17.7	61	12	0	25	32.9	. .	2.77	5	0	11	
140	Milton	39.8	22.9	16.9	62	2	9	11	31.4	32.9	2.45	5	0	7	*b*
141	Monson	41.6	18.7	22.9	63	2	3	25	30.2	. .	3.34	2	. .	14	
173	Nahant	39.5	24.3	15.2	58	2	10	10, 23	31.9	. .	. .	. .	. .	. .	*b*
146	Nantucket . . .	41.7	27.5	14.2	56	2, 3	17	23	34.8	. .	3.52	2	. .	14	
147	New Bedford (*a*)	42.1	25.1	17.0	60	12	10	23	33.6	33.6	2.66	4	0	13	*b*
148	" " (*b*)	44.4	26.8	17.6	62	12	7	25	35.6	35.4	2.78	3	0	13	*c*
149	Newburyport (*a*)	40.0	20.5	19.5	65	2	5	11	30.2	29.7	2.85	12		12	*b*
152	Northampton .	39.7	23.4	16.3	60	2	8	25	31.6	. .	2.98	8	. .	13	
153	Plymouth . . .	. .	. .	. .	62	13	11	23	. .	36.4	2.38	. .	. .	10	*a b*
154	Princeton . . .	38.4	18.1	20.3	58	2	3	27	28.2	. .	. .	. .	. .	. .	
155	Provincetown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
158	Salem (*a*) . . .	. .	. .	. .	62	2	8	10	. .	30.6	. .	. .	. .	. .	*a b*
160	South Hingham	. .	22.3	. .	. .	. .	1	25	. .	. .	2.80	8	0	12	
161	Springfield . . .	38.5	24.6	13.9	61	2	10	23	31.6	32.7	2.68	3	0	17	*b*
163	Taunton (*a*) . .	44.5	25.3	19.2	64	12	6	25	34.9	34.5	3.09	3	. .	12	*b*
164	" (*b*) . .	44.0	23.4	20.6	62	2	6	25	33.7	. .	3.28	4	0	11	
165	" (*c*) . .	45.2	23.1	22.1	62	12	—1	25	34.2	. .	2.89	. .	. .	14	
181	Wakefield . . .	37.5	20.5	17.0	60	2	6	11, 25	29.0	. .	2.50	10	1	10	
168	Wellesley . . .	45.2	21.6	23.6	63	2	—2	25	33.4	. .	2.50	7	0	12	
169	Westboro' . . .	43.0	23.8	19.2	64	2	5	25	33.4	. .	2.42	8	0	11	*a*
170	Williamstown .	38.6	21.6	17.1	60	2	2	25	30.1	30.2	3.41	3	0	12	*b*
172	Worcester . . .	41.8	21.2	20.6	66	2	9	11	31.6	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Rhode Island.														
201	Block Island . .	43.5	30.6	12.9	57	13	14	23	37.9	. .	2.33	2	. .	16	
202	Bristol	45.2	27.9	17.3	58	12	12	11	36.6	36.2	2.43	4	0	11	*b*
210	Kingston	43.3	24.8	18.5	61	12	9	23	34.0	. .	2.99	4	0	11	
204	Newport	44.6	30.3	14.3	58	6	15	22	37.4	. .	. .	. .	. .	. .	
205	Olneyville . . .	46.4	26.9	19.5	69	12	12	11	36.6	. .	. .	. .	. .	. .	
207	Providence (*a*) .	43.4	26.5	16.8	64	2	12	11	35.0	34.8	2.79	4	0	12	*c*
208	" (*b*) .	43.8	23.2	20.6	63	2	8	25	33.5	. .	2.93	3	0	14	
209	Woonsocket . .	40.1	28.2	11.9	61	2	7	24	34.1	32.4	3.17	3	. .	13	*c*
	Connecticut.														
221	Canton	. .	26.3	. .	61	2	6	23	. .	. .	2.47	. .	. .	7	
222	Colchester . . .	43.3	24.7	18.6	62	12	10	23	34.0	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	40.6	25.1	15.5	65	2	11	23	32.8	31.4	3.02	3	0	15	*b*
237	Mansfield	41.7	22.1	19.6	61	2	7	23	31.9	32.0	2.66	4	0	10	*b*
226	Middletown . .	43.6	25.6	18.0	62	2	11	23	34.6	33.7	2.84	2	0	11	*b*
228	New Haven . .	43.3	27.4	15.9	65	12	10	23	35.4	. .	3.07	. .	0	17	
229	New London . .	43.8	29.5	14.3	62	12	14	23	36.7	. .	3.31	3	0	15	
230	Shelton	43.3	24.7	18.5	60	2	12	24	34.0	. .	1.26	. .	. .	6	
231	Thompson . . .	36.0	26.7	9.3	61	2	9	23, 25	30.4	30.2	. .	. .	. .	. .	*a b*
233	Voluntown . . .	. .	. .	. .	60	2, 12	6	25	. .	35.1	3.14	2	0	11	*a b*
235	Waterbury . . .	38.7	25.0	13.7	61	2	9	23, 25	31.8	. .	2.54	5	. .	14	
	New York.														
251	Albany	38.1	23.1	15.0	61	2	6	11	30.6	. .	2.28	. .	. .	15	
252	Boyd's Corners .	. .	. .	. .	62	12, 13	14	22	. .	35.3	1.97	1	. .	11	*a b*
253	Carmel	43.5	26.0	17.5	62	12	10	25	34.8	. .	2.76	. .	0	12	
254	New York (*a*) .	44.9	30.3	14.6	64	12	15	22	37.6	37.6	2.29	. .	. .	. .	*b*
255	" " (*b*) .	47.9	32.6	15.3	67	12	15	23	40.0	. .	2.95	. .	. .	12	
258	Poughkeepsie . .	43.6	23 3	20.3	66	13	8	23	33.4	. .	2.63	4	. .	12	
256	Setauket	46.8	31.8	15.0	64	12	18	22	39.3	38.8	1.87	. .	. .	9	*b*

STATIONS REPORTING PRECIPITATION ONLY.—JANUARY, 1890.

No.	STATION.		Total Precip.	Snow-fall.	No.	STATION.		Total Precip.	Snow-fall.
32	Belmont,	N.H. . .	4.22	18	159	Salem (*b*),	Mass.	2.44	10
35	Bristol,	" . .	3.53	16	166	Waltham,	"	2.30	. .
40	Lake Village,	" . .	3.76	22	171	Winchester,	"	2.56	3
44	Mine Falls,	" . .	2.71	. .	203	Lonsdale,	R. I.	2.71	3
48	Pennichuck Station,	" . .	2.56	. .	206	Pawtucket,	"	3.01	3
53	Weir's Bridge,	" . .	4.07	24	238	Birmingham	Conn.	2.48	3
55	Wolfboro',	" . .	3.20	21	239	Clark's Falls,	"	3.14	3
75	Cornwall,	Vt. . . .	3.13	8	247	Falls Village,	"	2.53	3
81	Newport,	" . . .	. .	. .	224	Hartford (*b*),	"	2.40	3
107	Boston (*b*),	Mass. . . .	2.54	. .	225	Lake Konomoc,	"	3.31	. .
111	Chicopee,	" . . .	2.84	. .	249	Lebanon	"	2.99	3
112	Clinton,	" . . .	2.00	10	240	New Britain,	"	2.25	. .
119	Fiskdale,	" . . .	2.17	. .	227	New Hartford,	"	. .	. .
130	Leominster,	" . . .	2.98	10	241	Newington,	"	. .	. .
138	Medford,	" . . .	2.51	. .	246	No. Woodstock	"	. .	. .
142	Mt. Nonotuck,	" . . .	3.38	6	248	So. Manchester,	"	2.55	3
143	Mystic Lake,	" . . .	2.79	. .	232	Uncasville,	"	3.67	4
144	Mystic Station,	" . . .	2.47	. .	234	Wallingford,	"	3.25	1
150	Newburyport (*b*),	" . . .	1.45	3	245	W. Simsbury,	"	2.38	. .
156	Randolph	" . . .	3.00	4	257	S. E. Reservoir,	N. Y.	2.73	. .
179	Robert's Dam,	" . . .	3.01	3					

NOTES.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings of thermograph. *f*—Mean for 17 days.

Number.	STATION.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									MEAN.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	New Brunswick.														
1	St. John	28.6	13.0	15.6	47	5	—3	*f*	20.8	21.6	5.28	11	0	10	*c f*
	Maine.														
2	Bar Harbor . .	32.1	17.2	14.9	53	5	—2	22	24.7	. .	3.64	17	. .	16	
3	Belfast	. .	. .	. .	48	5	0	21	. .	24.9	. .	19	T	. .	*a c*
14	Calais	30.7	14.2	16.5	49	8	—7	23	22.4	. .	4.41	13	1	8	
4	Eastport	30.8	16.3	14.5	47	8	—2	22	23.6	. .	4.58	. .	. .	15	
5	Fairfield	32.3	8.8	23.5	47	5	-16	2	20.5	. .	3.31	12	11	12	
6	Gardiner	35.7	16.0	19.7	56	15	—2	21, 23	25.8	24.9	3.78	12	3	13	*b*
7	Kent's Hill . . .	28.6	9.0	19.6	48	5	—8	25	18.8	. .	3.56	. .	6	9	
8	Lewiston	31.1	13.0	18.1	51	5	—4	21	22.1	22.3	4.14	15	1	15	*b*
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
10	Orono	31.2	12.2	19.1	46	15	—9	23	21.7	22.6	4.52	. .	T	. .	*b*
11	Petit Menan .	. .	. .	. .	45	14	4	*g*	. .	25.2	. .	. .	. .	. .	*a b g*
12	Portland	33.7	19.5	14.2	58	5	0	22	26.6	. .	4.04	. .	. .	16	*d*
15	West Jonesport	. .	. .	. .	48	5	1	22	. .	23.6	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	31.6	6.8	24.9	48	5, 14	-17	22	19.2	. .	. .	. .	. .	. .	
34	Berlin Mills . .	. .	. .	. .	51	25	-12	2, 22	. .	. .	4.12	27	6	11	*a b*
37	Concord	38.8	17.2	21.6	55	5	—7	23	28.0	. .	4.20	12	0	12	
39	Hanover (*a*) .	33.5	14.2	19.3	51	5	—6	23	23.8	25.4	2.75	13	T	10	*b*
58	" (*b*)	36.6	14.1	22.3	56	5	—8	23	25.4	23.3	3.30	14	0	15	*d*
42	Manchester (*b*)	38.8	18.6	20.2	55	5	—6	23	28.7	29.6	4.80	16	T	15	*b*
43	" (*c*)	36.6	19.8	16.8	57	5	—6	23	28.2	. .	3.96	. .	T	15	
45	Nashua	39.1	19.9	19.2	59	5	—4	23	29.5	29.1	4.21	11	T	14	*c*
57	Newton	38.0	19.3	18.7	58	5	—5	22	28.6	. .	3.51	11	0	14	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	
47	North Conway .	34.8	10.6	24.2	57	5	-10	7	22.8	. .	3.96	5	. .	9	
49	Plymouth . . .	33.2	10.2	23.0	51	5	-10	23	21.6	. .	4.82	21	8	16	
51	Stratford	34.9	10.7	24.2	52	24	-15	6	22.8	. .	2.89	9	3	9	
52	Walpole	36.1	15.6	20.5	52	5	—8	22	25.8	. .	4.12	14	T	15	
54	West Milan . .	35.2	9.7	25.5	54	5	-20	23	22.5	. .	1.97	15	. .	8	
	Vermont.														
71	Brattleboro' (*a*)	37.8	20.1	17.7	58	26	—4	22	28.9	28.1	4.98	13	1	. .	*c*
72	" (*b*)	38.8	22.7	16.1	56	5, 26	4	*h*	30.8	29.4	. .	. .	. .	. .	*c h*
73	Burlington . . .	35.1	17.2	17.9	51	26	—4	21	26.2	24.4	1.98	11	0	14	*c*
74	Chelsea	. .	. .	. .	48	26	—6	21, 22	. .	24.2	3.85	24	5	17	*a b*
88	Hartland . . .	36.4	15.9	20.5	56	5	—7	23	26.2	. .	3.24	13	T	10	
77	Jacksonville . .	36.1	15.6	20.4	51	5	-12	22	25.8	25.4	6.13	17	3	19	*c*
78	Lunenburgh . .	31.1	16.3	14.9	48	25	—8	21	23.7	24.7	2.68	12	T	8	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	31.8	12.5	19.3	56	5	—7	10	22.2	. .	3.29	. .	4	14	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	46	26	—8	21, 22	. .	22.1	4.40	23	4	13	*a b*
85	Vernon	. .	. .	. .	58	26	—4	22	. .	30.6	4.93	. .	. .	9	*a c*
89	Weathersfield Ct.	34.4	14.1	20.3	52	26, 27	—7	21	24.2	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	59	26	2	22	. .	32.2	4.12	4	. .	. .	*b*
102	" (*b*) . .	39.9	22.5	17.4	60	26	3	22, 23	31.2	30.8	4.01	4	0	12	*b*
177	" (*c*) . .	40.8	24.6	16.2	58	5, 26	3	22	32.7	32.0	4.19	5	0	14	
180	Andover	36.8	23.8	13.0	55	5	0	22	30.3	. .	. .	. .	. .	. .	*b*
103	Beverly Farms .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
104	Blue Hill (sum't)	38.7	21.9	16.9	61	5	0	22	30.3	30.5	2.86	1	0	15	*b*
105	" " (base)	41.1	23.3	17.8	64	5	0	22	32.2	. .	3.15	. .	. .	. .	
174	" " (valley)	41.7	23.0	18.7	65	5	—3	22	32.5	. .	2.40	. .	. .	. .	
106	Boston (*a*) . . .	41.2	25.3	15.9	64	5	5	22	33.2	. .	2.29	6	0	14	
175	Brewster	43.9	28.5	15.4	64	5	11	21	36.2	37.8	2.57	0	0	10	*d*
108	Cambridge (*a*) .	40.1	22.4	17.1	60	5	0	22	32.8	. .	2.85	. .	. .	11	
109	" (*b*) .	41.3	22.1	19.2	62	5	3	21	31.7	. .	5.22	. .	. .	14	
110	Chestnut Hill .	41.8	22.1	19.7	63	5	—2	22	32.0	. .	3.12	4	. .	13	
114	Cotuit	40.4	27.9	12.5	58	5	7	22	34.2	. .	2.65	. .	. .	9	
116	Deerfield	. .	. .	. .	56	26	—1	22	. .	30.6	. .	. .	. .	. .	*a b*
117	Dudley	42.0	24.4	17.6	62	5	5	7	33.2	31.0	3.00	1	. .	7	*b*
118	Fall River . . .	44.3	24.6	19.6	61	5, 26	7	22	34.4	. .	3.37	. .	. .	9	
120	Fitchburg (*a*)	. .	. .	. .	55	26	—2	22	. .	28.7	3.68	8	0	14	*a b*
121	" (*b*)	39.3	21.2	18.1	59	8	0	22	30.3	. .	4.07	10	0	14	
122	Framingham . .	41.9	23.2	18.7	62	5	—1	22	32.6	. .	3.60	. .	. .	16	
123	Gilbertville . . .	39.6	21.9	17.7	57	5	—4	22	30.8	. .	2.96	5	0	11	
124	Groton (*a*) . .	40.3	21.7	18.6	60	5	—7	22	30.0	. .	3.84	10	0	11	
125	" (*b*) . .	40.1	20.5	19.6	59	5	1	21	30.3	. .	. .	. .	0	. .	
126	Holyoke	43.3	22.9	20.4	60	6	4	22	33.1	. .	4.66	6	0	11	
178	Kendall Green .	37.4	27.3	10.1	54	5	—4	22	32.4	. .	2.96	7	0	10	
127	Lake Cochituate	43.9	21.2	22.8	65	5, 8	—5	22	32.6	. .	3.26	. .	. .	13	
128	Lawrence . . .	39.7	20.6	19.1	57	5	—3	22	30.2	. .	3.50	8	0	14	
129	Leicester	34.9	21.2	13.7	58	5	0	22	28.1	28.3	3.82	6	0	12	*b*
131	Long Plain . . .	39.7	27.1	12.6	64	5	4	22	33.4	33.4	3.16	. .	0	13	*a c*
133	Lowell (*b*) . .	38.6	22.4	16.1	58	8	2	23	30.5	. .	3.75	. .	0	13	
136	" (*c*) . . .	39.5	21.9	17.6	60	5, 8	—2	23	30.7	. .	. .	. .	0	. .	
176	" (*d*) . . .	40.0	23.2	16.8	60	5	2	22	30.6	. .	. .	. .	. .	. .	
134	Ludlow	39.0	21.8	17.2	60	26	—4	22	30.4	. .	4.52	5	0	13	
135	Lynn	40.2	24.0	16.2	60	5	5	21	32.1	. .	4.69	13	. .	15	
137	Mansfield	41.3	24.3	17.0	59	26	—2	22	32.8	. .	3.80	5	. .	15	
139	Middleboro' . .	42.8	24.9	17.9	65	6	1	22	33.8	. .	2.90	2	. .	9	
140	Milton	40.0	25.4	14.6	62	5	0	22	32.7	33.3	3.60	4	0	13	*b*
141	Monson	41.3	20.4	20.9	61	5	—1	22	30.8	. .	3.43	. .	. .	14	
173	Nahant	38.1	25.6	12.5	57	5	6	22	32.8	. .	. .	. .	. .	. .	*b*
146	Nantucket . . .	41.4	30.0	11.3	55	5	12	22	35.7	. .	2.72	. .	. .	12	
147	New Bedford (*a*)	41.3	26.4	14.9	60	5	10	22	33.8	34.0	2.36	2	. .	8	*b*
148	" " (*b*)	43.1	27.5	15.6	63	5	9	22	35.3	35.0	2.85	. .	. .	14	*c*
149	Newburyport (*a*)	40.7	23.0	17.7	60	5	—2	22	31.8	31.3	4.27	7	T	13	*b*
152	Northampton .	38.7	24.2	14.5	51	14, 15	4	22	31.4	. .	4.58	. .	. .	10	
153	Plymouth . . .	. .	. .	. .	61	5	8	22	. .	32.6	3.60	. .	. .	15	*a b*
154	Princeton . . .	35.5	19.1	16.4	56	5, 26	—6	22	27.3	. .	2.60	. .	. .	. .	
155	Provincetown .	41.0	28.9	12.1	55	5	9	22	35.0	. .	2.92	2	0	13	
158	Salem (*a*) . . .	. .	. .	. .	54	5	3	22	. .	33.6	. .	. .	. .	. .	*a b*
160	South Hingham	. .	23.9	. .	. .	. .	—4	22	. .	. .	3.45	6	. .	. .	
161	Springfield . . .	40.2	25.2	15.0	60	5, 26	5	21	32.7	33.2	4.07	6	0	13	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	44.2	26.3	17.9	65	5	6	22	35.2	34.7	3.62	3	0	14	*b*
164	" (*b*) . .	44.3	25.8	18.4	66	5	6	22	35.0	. .	3.50	3	. .	12	
165	" (*c*) . .	43.9	24.6	19.3	66	5	3	22	34.2	. .	3.70	. .	. .	13	
181	Wakefield . . .	37.6	22.0	15.7	57	8	—3	22	29.8	. .	3.61	5	0	11	
168	Wellesley . . .	44.7	23.5	21.2	63	2	6	22	34.1	. .	2.84	5	0	9	
169	Westboro' . . .	41.7	25.3	16.5	60	8	2	22	33.5	. .	3.62	6	0	14	*a*
170	Williamstown .	38.1	21.5	16.5	55	26	0	21	29.8	29.4	3.92	6	0	14	*b*
172	Worcester . . .	42.6	23.1	19.5	62	6	4	22	32.8	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Rhode Island.														
201	Block Island . .	43.2	31.1	12.1	58	5	14	21	37.0	. .	1.50	1	0	14	
202	Bristol	43.2	28.9	14.3	59	5, 26	12	7, 21	36.1	35.7	2.51	3	0	13	*b*
210	Kingston	42.1	25.9	16.1	63	5, 26	8	21	34.0	. .	3.54	2	0	11	
204	Newport	45.1	29.3	15.8	62	26	12	20	37.2	. .	. .	. .	. .	. .	
205	Olneyville . . .	46.0	27.1	18.8	70	5	10	22	36.5	. .	. .	. .	0	. .	
207	Providence (*a*) .	42.5	27.4	15.1	65	5	10	21	35.0	35.1	3.35	4	0	12	*c*
208	“ (*b*) .	43.1	24.5	18.6	64	5	5	22	33.8	. .	3.72	3	0	13	
209	Woonsocket . .	40.7	27.8	12.9	61	5	1	21	34.2	32.6	3.48	T	. .	13	*c*
	Connecticut.														
221	Canton	. .	26.3	. .	62	5	4	21, 22	. .	. .	4.39	T	0	6	
222	Colchester . . .	42.0	23 9	18.1	66	5	8	21	33.0	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	44.1	26.3	17.8	68	5	8	22	35.2	32.1	3.91	. .	0	11	
237	Mansfield	40.6	22.5	18.1	64	5	5	21	31.6	31.4	3.28	4	. .	12	*b*
226	Middletown . .	43.5	26.3	17.2	67	5	9	22	34.9	34.2	3.28	2	. .	11	*b*
228	New Haven . .	43.1	27.9	15.2	67	5, 26	10	22	35.5	. .	3.19	. .	0	16	
229	New London . .	43.3	30.4	12.9	65	5	14	7	36.8	. .	2.40	3	0	13	
230	Shelton	43.4	25.5	17.9	65	5	11	21, 22	34.5	. .	4.03	. .	. .	10	
231	Thompson . . .	34.4	27.0	7.4	54	26	4	22	30.7	30.1	. .	0	0	. .	*a b*
233	Voluntown . . .	. .	. .	. .	62	26	9	21	. .	34.6	2.55	. .	. .	7	*a b*
235	Waterbury . . .	40.8	26.6	14.2	65	5	8	22	33.7	. .	3.77	6	. .	11	
	New York.														
251	Albany	38.6	23.5	15.1	60	26	4	21	31.2	. .	2.52	. .	. .	15	
252	Boyd's Corners .	. .	. .	. .	64	26	10	22	. .	35.8	4·94	2	. .	11	*a b*
253	Carmel	44.2	27.5	16.8	64	26	8	21	35.9	. .	4.76	2	. .	10	
254	New York (*a*) .	. .	. .	. .	68	5	16	21	. .	37.9	3.41	1	0	10	*b*
255	“ “ (*b*) .	48.5	32.4	16.1	69	5	17	7	40.0	. .	3.86	. .	. .	9	
258	Poughkeepsie . .	44.2	24.5	19.7	68	26	5	22	34.4	. .	3.32	. .	. .	9	
256	Setauket	44.4	31.3	13.1	64	5, 26	16	21	37.9	37.6	3.00	. .	0	10	*b*

STATIONS REPORTING PRECIPITATION ONLY.—FEBRUARY, 1890.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	3.97	. .	179	Robert's Dam, Mass.	2.86	. .
35	Bristol, “ . .	4.32	. .	159	Salem (*b*), “	3.21	·6
40	Lake Village, “ . .	4 28	. .	166	Waltham, “	3.28	. .
44	Mine Falls, “ . .	4.10	. .	171	Winchester, “	3.35	. .
48	Pennichuck Station, “ . .	4.30	. .	203	Lonsdale, R. I.	3.26	3
53	Weir's Bridge, “ . .	4.12	. .	206	Pawtucket, “	3.33	4
55	Wolfboro', “ . .	4.31	. .	238	Birmingham Conn.	. .	. .
75	Cornwall, Vt. . . .	3.80	10	239	Clark's Falls, “	. .	. .
81	Newport, “ . . .	. .	. .	247	Falls Village, “	3.40	6
107	Boston (*b*), Mass. . . .	3.05	. .	224	Hartford (*b*), “	3.64	2
111	Chicopee, “ . . .	4.24	. .	225	Lake Konomoc, “	2.23	. .
112	Clinton, “ . . .	2.65	. .	249	Lebanon “	3.24	2
119	Fiskdale, “ . . .	3.75	. .	240	New Britain, “	3.99	. .
130	Leominster, “ . . .	3.91	8	227	New Hartford, “	4.05	. .
138	Medford, “ . . .	3.35	. .	248	So. Manchester, “	3.27	. .
142	Mt. Nonotuck, “ . . .	4.00	4	232	Uncasville, “	3.18	3
143	Mystic Lake, “ . . .	3.36	. .	234	Wallingford, “	3.09	. .
144	Mystic Station, “ . . .	3.25	. .	245	W. Simsbury, “	3.70	4
150	Newburyport (*b*), “ . . .	4.76	. .	257	S. E. Reservoir, N. Y.	4.55	. .
156	Randolph “ . . .	3.35	. .				

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7 + 2 + 9 + 9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A. M. and 8 P.M.; a correction applied in calculating means (see above). *f*—Minimum on 7th, 21st, 22d. *g*—Minimum on 7th, 22d, 23d. *h*—Minimum on 21st, 22d, 23d.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, Including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	35.1	24.0	11.1	45	22	9	9, 10	29.6	29.8	8.94	11	T	17	c
	Maine.														
2	Bar Harbor . .	37.1	24.6	12.5	46	21	6	7	31.4	. .	6.31	28	0	19	
3	Belfast	. .	. .	. .	46	22	6	7	. .	30.4	. .	32	6	. .	a c
14	Calais	38.1	21.0	17.1	54	22	—5	10	29.6	. .	6.19	32	. .	13	
4	Eastport	34.2	24.5	9.7	46	22	10	8	29.4	. .	5.85	. .	. .	20	
5	Fairfield	37.2	18.9	18.3	50	22	-16	4	28.0	. .	4.61	17	2	16	
6	Gardiner	38.6	21.5	17.1	49	12	—5	4, 10	30.0	29.5	4.52	24	5	16	b
7	Kent's Hill . . .	32.8	19.0	13.8	57	13	—2	7	25.9	. .	. .	. .	5	19	
8	Lewiston	36.7	16.9	19.9	46	22	-10	4	26.8	27.0	5.88	28	4	20	b
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
10	Orono	36.6	20.3	16.2	47	14	-10	10	28.4	28.9	5.81	. .	4	15	b
11	Petit Menan .	. .	. .	. .	41	21	14	7	. .	31.7	. .	. .	. .	. .	a b
12	Portland	37.0	24.4	12.6	51	13	5	7	30.7	. .	6.24	. .	. .	19	
15	West Jonesport	. .	. .	. .	48	27	8	10	. .	30.8	. .	. .	. .	15	a b
	New Hampshire.														
33	Berlin Falls . .	34.9	11.2	23.7	54	13	-19	4, 8	23.0	. .	. .	. .	. .	. .	
34	Berlin Mills . .	. .	. .	. .	. .	. .	. .	. .	.	. .	3.46	34	. .	11	
37	Concord	40.6	19.9	20.7	61	12	—7	4	30.2	. .	5.67	29	2	15	
39	Hanover (*a*) .	36.1	18.0	18.1	50	26	-11	8	27.1	27.8	3.24	25	3	11	b
58	" (*b*)	38.6	17.2	21.4	53	12	-14	7, 8	27.9	27.3	3.41	24	7	14	d
42	Manchester (*b*)	40.0	21.8	18.2	59	12	—4	4	30.9	32.1	6.03	29	T	17	b
43	" (*c*)	38.4	23.1	15.3	64	12	—4	4	30.8	. .	5.73	33	1	18	
45	Nashua	39.9	21.2	18.7	62	12	—4	4	30.5	31.1	7.11	42	0	16	c
57	Newton	39.9	22.2	17.7	60	13	—2	4	31.0	. .	5.61	31	0	16	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	38.8	18.4	20.4	51	13	—6	8	28.6	. .	2.76	26	12	16	
49	Plymouth . . .	36.4	17.6	18.9	49	22	—8	10	27.0	. .	4.41	29	. .	16	
51	Stratford	41.4	18.3	23.1	46	10, 13	-20	8	29.8	. .	3.06	28	6	10	
52	Walpole	36.3	15.9	20.4	52	12	-11	*f*	26.1	. .	4.68	22	T	18	*f*
54	West Milan . .	36.6	13.5	23.1	56	13	-22	4	20.0	. .	3.90	28	. .	16	
	Vermont.														
71	Brattleboro' (*a*)	39.4	20.8	18.6	56	12	—6	8	30.1	29.7	5.11	20	0	. .	c
72	" (*b*)	39.9	24.1	15.8	57	12	—1	8	32.0	30.7	. .	. .	. .	. .	c
73	Burlington . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
74	Chelsea	. .	. .	. .	48	10	—5	7	. .	26.4	2.93	25	18	17	a b
88	Hartland . . .	37.7	18.3	19.4	49	12	-14	7	28.0	. .	3.67	17	2	11	
77	Jacksonville . .	38.7	17.5	21.2	60	12	—9	8	28.1	27.9	5.48	24	5	20	c
78	Lunenburgh . .	33.3	20.3	13.0	47	12	-12	7	26.8	27.4	4.14	34	6	17	b
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	33.2	16.7	16.5	59	12	-13	8	25.0	. .	2.54	16	4	16	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	48	12, 13	—6	7	. .	25.5	3.70	36	16	13	a b
85	Vernon	. .	. .	. .	50	12	8	8	. .	30.5	5.17	13	. .	10	a c
89	Weathersfield Ct.	34.4	17.5	16.9	54	12	-10	6	26.0	. .	. .	10	5	11	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	60	12	— 6	7	. .	32.6	5.25	12	. .	. .	*b*
102	" (*b*) . .	38.9	21.6	17.3	60	12	—10	7	30.2	30.2	4.81	17	T	16	*b*
177	" (*c*) . .	38.8	25.2	13.6	62	12	— 6	7	32.0	31.0	5.37	17	2	17	*e*
180	Andover	38.4	25.2	13.2	60	13	— 1	7	31.8	. .	5.28	26	. .	13	
103	Beverly Farms .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
104	Blue Hill (sum't)	39.1	23.4	15.7	64	13	— 1	7	31.2	31.2	7.44	29	0	17	
105	" " (base)	41.8	24.7	17.1	66	13	1	7	33.2	. .	7.54	. .	. .	. .	
174	" " (valley)	42.0	23.8	18.2	66	13	— 2	4	32.9	. .	7.64	. .	. .	. .	
106	Boston (*a*) . . .	42.2	27.6	14.5	68	12	4	7	34.9	. .	5.88	.	0	17	
175	Brewster	42.3	29.4	12.9	57	12	13	7	35.4	36.4	8.09	20	T	12	*d*
108	Cambridge (*a*) .	39.5	24.9	14.6	62	13	2	7	32.2	. .	6.53	. .	. .	14	
109	" (*b*) .	41.5	24.4	17.1	62	13	3	6	33.0	. .	7.02	. .	. .	16	
110	Chestnut Hill .	42.9	23.3	19.6	65	12	— 1	7	33.1	. .	7.64	25	. .	15	
114	Cotuit	41.2	27.9	13.3	60	13	5	7	34.6	. .	7.06	16	. .	15	
116	Deerfield	. .	. .	. .	56	12	— 6	7	. .	30.8	. .	. .	. .	. .	*a b*
117	Dudley	39.5	23.8	15.7	66	12	— 2	7	31.6	31.1	6.60	12	1	13	*b*
118	Fall River . . .	42.2	25.6	16.6	72	13	2	7	33.9	. .	10.31	. .	. .	19	
120	Fitchburg (*a*)	. .	. .	. .	59	12	0	7	. .	30.4	6.07	26	0	17	*a b*
121	" (*b*)	40.4	23.3	17.1	64	12	— 1	7	31.8	. .	6.22	28	T	16	
122	Framingham . .	42.6	23.2	19.4	64	13	— 3	7	32.9	. .	7.68	26	. .	18	
123	Gilbertville . . .	40.9	21.3	19.6	60	12	— 3	10	31.1	. .	7.15	26	0	16	
124	Groton (*a*) . .	43.0	24.0	19.0	62	12	0	7	33.5	. .	6.11	40	0	15	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
126	Holyoke	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	38.2	28.2	10.0	63	13	2	8	33.2	. .	7.28	31	. .	14	
127	Lake Cochituate	45.5	21.0	24.5	67	13	— 4	4, 8	33.2	. .	7.30	. .	. .	15	
128	Lawrence . . .	41.7	22.5	19.2	60	13	0	7	32.1	. .	6.51	27	0	18	
129	Leicester	36.0	22.7	13.3	63	12	— 1	7	29.3	29.3	6.42	26	T	17	*b*
131	Long Plain . . .	39.5	27.6	11.9	58	12	2	7	33.6	. .	6.11	12	0	14	*a*
133	Lowell (*b*) . .	39.2	23.9	15.3	62	12	2	4	31.6	. .	6.83	. .	. .	16	
136	" (*c*) . . .	40.3	23.1	17.2	62	12	0	4	31.7	. .	. .	. .	. .	. .	
176	" (*d*) . . .	42.6	25.3	17.3	67	12	4	7	34.0	. .	. .	. .	. .	13	
134	Ludlow	38.5	19.2	19.3	63	12	—13	7	28.9	. .	6.21	16	0	19	
135	Lynn	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
137	Mansfield	41.2	24.1	17.1	67	13	— 2	4	32.6	. .	8.45	28	. .	14	
139	Middleboro' . .	43.4	24.6	18.8	71	13	1	4	34.0	. .	8.69	23	. .	14	
140	Milton	41.6	26.5	15.1	67	13	4	7	34.0	. .	8.39	29	. .	13	
141	Monson	41.3	18.8	22.5	65	12	— 8	8, 9	30.1	. .	6.60	28	. .	16	
173	Nahant	39.9	28.9	11.0	61	13	13	4	34.4	. .	. .	. .	. .	. .	*i*
146	Nantucket . . .	40.6	30.8	9.8	54	13	14	7	35.7	. .	6.07	19	. .	18	
147	New Bedford (*a*)	41.2	26.0	15.2	62	13	4	7	33.6	33.8	9.77	13	. .	13	*b*
148	" " (*b*)	42.8	27.4	15.4	65	13	2	4	35.1	. .	8.17	17	0	21	
149	Newburyport (*a*)	42.0	25.2	16.8	62	13	4	7	33.6	33.0	6.94	32	T	18	*b*
152	Northampton .	39.3	23.7	15.7	52	13, 26	0	7	31.5	. .	5.81	. .	. .	12	
153	Plymouth . . .	. .	. .	. .	66	13	7	7	. .	35.8	10.14	14	0	17	*a b*
154	Princeton . . .	37.4	21.1	16.4	58	12	5	7	29.2	. .	. .	. .	. .	. .	
155	Provincetown .	41.2	29.0	12.2	60	13	13	7	35.1	. .	6.96	18	. .	16	
158	Salem (*a*) . . .	. .	. .	. .	61	12	3	7	. .	39.2	. .	. .	. .	. .	*a b*
160	South Hingham	. .	23.7	. .	. .	. .	— 1	4	. .	. .	8.00	30	. .	15	
161	Springfield . . .	39.4	25.1	14.3	65	12	3	7	32.2	33.2	6.31	20	0	15	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	43.5	26.2	17.3	70	13	2	4, 7	34.8	34.2	7.73	22	0	13	*b*
164	" (*b*) . .	44.4	25.0	19.4	73	13	2	7	34.7	. .	8.77	25	1	18	
165	" (*c*) . .	43.9	23.6	20.2	73	13	— 4	4	33.8	. .	8.40	5	. .	16	
181	Wakefield . . .	38.7	22.9	15.8	50	12	2	7	30.8	. .	7.49	34	0	12	
168	Wellesley . . .	44.5	22.5	22.0	65	13	— 4	4	33.5	. .	8.20	18	. .	13	
169	Westboro' . . .	43.7	24.9	18.8	66	13	0	4	34.3	. .	6.82	36	1	17	*a*
170	Williamstown .	35.7	20.8	14.9	58	12	—10	7	28.2	28.3	4.06	16	0	16	*b*
172	Worcester . . .	40.8	23.9	16.9	64	13	2	7	32.4	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Rhode Island.														
201	Block Island . .	40.6	30.2	10.4	53	13	11	7	35.3	. .	5.16	9	1	18	
202	Bristol	42.1	29.1	13.0	56	13	6	7	35.6	35.0	8.14	16	1	17	*b*
210	Kingston	41.9	25.6	16.3	67	18	3	7	33.8	. .	8.45	22	0	15	
204	Newport	43.5	29.8	13.7	62	13	10	6	36.6	. .	. .	. .	. .	. .	
205	Olneyville . . .	45.7	27.5	18.2	72	12	5	7	36.6	. .	. .	. .	. .	. .	
207	Providence (*a*) .	42.1	27.7	14.4	66	13	6	7	34.9	34.9	8.27	22	1	17	*c*
208	“ (*b*) .	42.9	24.4	18.5	67	13	2	7	33.6	. .	7.12	20	2	16	
209	Woonsocket . .	40.0	25.9	14.1	63	13	2	3	33.0	33.1	8.55	26	. .	16	*c*
	Connecticut.														
221	Canton	39.8	24.8	15.0	66	12	—4	7	32.3	. .	5.80	23	1	13	
222	Colchester . . .	40.9	23 8	17.1	67	12	2	7	32.3	. .	. .	. .	. .	. .	*g*
223	Hartford (*a*) . .	41.9	25.0	16.9	69	12	1	7	33.4	. .	7.03	28	0	15	
237	Mansfield	38.9	23.0	15.9	66	12	—7	7	31.0	30.8	6.12	18	2	17	*b*
226	Middletown . .	41.7	24.9	16.8	66	12	0	7	33.3	32.7	7.45	22	. .	17	*b*
228	New Haven . .	41.3	27.0	14.3	67	12	4	7	34.2	. .	6.60	18	2	18	
229	New London . .	42.7	29.5	13.2	64	13	7	7	36.1	. .	8.60	26	3	16	
230	Shelton	40.3	23.5	16.8	66	12	5	6	31.9	. .	7.22	6	. .	14	
231	Thompson . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
233	Voluntown . . .	42.9	25.0	17.8	65	12	. .	. .	34.0	34.0	7.41	14	. .	16	*b h*
235	Waterbury . . .	38.9	24.3	14.6	65	12	0	7	31.6	. .	6.08	12	. .	16	
	New York.														
251	Albany	38.5	23.6	14.9	67	12	—4	7	31.0	. .	3.72	. .	. .	17	
252	Boyd's Corners .	. .	. .	. .	67	12	1	7	. .	33.4	5.56	16	0	13	*a b*
253	Carmel	40.5	24.3	16.2	67	12	0	7	32.4	. .	5.59	14	. .	13	
254	New York (*a*) .	. .	. .	. .	71	12	7	7	. .	35.6	5.50	17	3	17	*e*
255	“ “ (*b*) .	44.3	30.7	13.6	71	12	6	7	37.6	. .	6.67	. .	. .	20	
258	Poughkeepsie . .	42.8	21.8	21.0	65	13	—4	7	32.3	. .	4.70	. .	T	15	
256	Setauket	42.2	29.7	12.5	69	12	8	7	36.0	35.4	6.56	13	0	15	*b*

STATIONS REPORTING PRECIPITATION ONLY.—MARCH, 1890.

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	5.64	. .	179	Robert's Dam, Mass.	7.43	31
35	Bristol, “ . .	. .	. .	159	Salem (*b*), “	6.97	34
40	Lake Village, “ . .	5.21	. .	166	Waltham, “	7.04	. .
44	Mine Falls, “ . .	6.50	. .	171	Winchester, “	6.47	26
48	Pennichuck Station, “ . .	6.48	. .	203	Lonsdale, R. I.	7.18	22
53	Weir's Bridge, “ . .	4.90	. .	206	Pawtucket, “	5.23	19
55	Wolfboro', “ . .	5.09	. .	238	Birmingham Conn.	6.55	20
75	Cornwall, Vt. . . .	3.44	10	239	Clark's Falls, “	. .	. .
81	Newport, “ . . .	. .	. .	247	Falls Village, “	5.86	30
107	Boston (*b*), Mass. . . .	6.49	. .	224	Hartford (*b*), “	7.26	17
111	Chicopee, “ . . .	. .	. .	225	Lake Konomoc, “	9.53	. .
112	Clinton, “ . . .	6.08	. .	249	Lebanon “	6.49	27
119	Fiskdale, “ . . .	5.22	. .	240	New Britain, “	6.86	18
130	Leominster, “ . . .	6.10	30	227	New Hartford, “	4.60	16
138	Medford, “ . . .	6.13	. .	248	So. Manchester, “	6.14	6
142	Mt. Nonotuck, “ . . .	4.56	23	232	Uncasville, “	8.58	15
143	Mystic Lake, “ . . .	6.89	. .	234	Wallingford, “	6.43	7
144	Mystic Station, “ . . .	6.49	. .	245	W. Simsbury, “	5.30	16
150	Newburyport (*b*), “ . . .	4.45	. .	257	S. E. Reservoir, N. Y.	6.01	14
156	Randolph “ . . .	5.64	24				

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Minimum on 7th, 8th, 9th. *g*—Mean for 29 days. *h*—Mean (Max. and Min.) for 25 days. *i*—Mean for 27 days.

Number.	Station	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	New Brunswick.														
1	St. John	43.8	31.1	12.7	60	13	19	2	37.4	37.6	2.59	5	. .	10	*c*
	Maine.														
2	Bar Harbor . .	49.7	33.4	16.3	62	13	25	2	41.6	. .	1.82	2	. .	6	
3	Belfast	. .	. .	. .	63	24	32	18	. .	42.3	. .	3	. .	6	*a c*
14	Calais	49.8	30.2	19.6	65	23	19	2	40.0	. .	2.01	3	. .	5	
4	Eastport	45.7	32.6	13.1	64	24	24	2	39.1	. .	1.95	. .	. .	9	
5	Fairfield	52.3	29.8	22.5	67	23	21	6, 18	41.0	. .	1.71	. .	. .	8	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	50.1	30.8	19.3	66	24	22	2	40.4	. .	1.88	. .	. .	7	
8	Lewiston	50.9	28.9	22.0	65	13	22	1	39.9	39.7	2.17	4	. .	8	*b*
9	Mayfield	. .	. .	. .	66	23	17	18	. .	37.0	2.42	7	T	6	*a b*
10	Orono	49.4	31.0	18.4	64	23	22	2	40.2	39.8	2.02	. .	. .	9	*b*
11	Petit Menan . .	. .	. .	. .	64	24	28	6	. .	41.5	. .	. .	. .	. .	*a b*
12	Portland	49.7	34.5	15.2	70	24	24	2	42.1	. .	2.51	. .	. .	9	
15	West Jonesport	. .	. .	. .	65	21	26	18	.	38.2	. .	5	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	49.7	22.2	27.5	72	23	10	2	36.0	. .	. .	. .	. .	. .	
34	Berlin Mills . .	50.9	26.3	24.6	73	23	14	2	38.6	. .	1.94	5	. .	7	
37	Concord	56.2	31.4	24.8	75	23	19	2	43.8	. .	1.88	T	. .	7	
39	Hanover (*a*) . .	51.7	28.0	23.7	70	14	10	1	39.8	41.5	1.57	T	. .	8	*b*
58	" (*b*)	55.6	27.4	28.2	76	14	11	2	41.5	41.4	1.87	0	. .	8	*d*
42	Manchester (*b*)	56.0	32.6	23.4	73	23	23	2, 19	44.3	44.8	1.83	T	. .	7	*b*
43	" (*c*)	55.6	33.1	22.5	74	23	24	2, 19	44.4	. .	1.76	T	. .	10	
45	Nashua	57.9	32.1	25.8	75	23	23	2	45.0	45.0	1.42	T	. .	8	*c*
57	Newton	55.3	32.0	23.3	74	24	22	2, 12	43.6	. .	1.43	T	. .	7	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	54.8	28.6	26.2	70	30	16	1	41.7	. .	. .	. .	. .	. .	
49	Plymouth . . .	53.7	26.8	26.9	75	30	13	1	40.2	. .	2.19	6	. .	11	
51	Stratford	55.9	26.3	29.6	75	23	11	2, 6	41.1	. .	1.47	4	. .	4	
52	Walpole	54.8	29.2	25.6	69	23	20	1	42.0	. .	1.78	. .	. .	7	
54	West Milan . .	51.8	24.5	27.3	74	13	6	2	38.2	. .	1.14	5	. .	9	
	Vermont.														
71	Brattleboro' (*a*)	58.6	31.8	26.8	78	13	21	16	45.2	44.8	1.47	. .	. .	. .	*c*
72	" (*b*)	59.1	34.6	24.5	78	13	25	6, 19	46.8	46.7	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	76	22	24	17	. .	. .	1.93	. .	. .	. .	
74	Chelsea	. .	. .	. .	68	13	18	2	. .	39.7	2.68	6	. .	10	*a b*
88	Hartland . . .	55.7	28.8	26.8	75	13	16	2	42.2	. .	2.10	. .	. .	9	
77	Jacksonville . .	55.5	27.9	27.6	77	13	16	2	41.7	40.8	1.79	T	. .	9	*c*
78	Lunenburgh . .	47.6	34.0	13.6	70	28	20	6	40.8	40.8	2.01	3	. .	8	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	50.0	28.2	21.9	71	23	17	1	39.1	. .	1.94	T	. .	11	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	68	*f*	14	2	. .	42.0	2.10	3	T	6	*a b f*
85	Vernon	. .	. .	. .	74	24	28	6	. .	47.6	1.91	. .	. .	5	*a c*
89	Weathersfield Ct.	52.8	31.1	21.7	71	13, 14	19	1	42.0	. .	. .	. .	. .	4	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	76	13	22	2	. .	46.6	1.68	T	. .	. .	*b*
102	" (*b*) . .	57.6	32.8	24.8	78	13	22	19	45.2	45.5	1.64	. .	. .	7	*b*
177	" (*c*) . .	59.5	32.1	27.4	80	13	22	19	45.8	. .	1.73	T	. .	9	
180	Andover	56.0	33.6	22.4	73	24	23	19	44.8	. .	. .	. .	. .	. .	
103	Beverly Farms .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
104	Blue Hill (sum't)	53.7	34.6	19.2	70	24	21	19	44.1	42.9	3.74	2	. .	11	*c*
105	" " (base)	55.6	34.7	20.9	71	24	22	19	45.1	. .	3.68	1	. .	. .	
174	" " (valley)	56.1	33.9	22.2	72	24	23	19	45.0	. .	3.10	1	. .	. .	
106	Boston (*a*) . . .	54.3	38.3	16.0	72	24	26	19	46.3	. .	2.29	. .	. .	12	
175	Brewster	53.8	38.3	15.5	73	21	30	1	46.0	44.7	2.19	0	. .	9	*d*
108	Cambridge (*a*) .	54.3	36.2	18.1	71	24	25	19	45.2	. .	2.03	. .	. .	9	
109	" (*b*) .	55.2	37.4	17.8	72	24	24	18	46.3	. .	4.83	. .	. .	8	
110	Chestnut Hill .	57.6	34.1	23.5	72	24	22	19	45.8	. .	2.93	T	. .	8	
114	Cotuit	52.4	35.7	16.7	67	24	24	2	44.0	. .	2.80	6	. .	8	
116	Deerfield	. .	. .	. .	80	13	28	19	. .	46.4	. .	. .	. .	. .	*a b*
117	Dudley	57.5	34.1	23.5	75	14	28	*g*	45.8	44.3	2.10	. .	. .	7	*b g*
118	Fall River . . .	56.0	35.1	20.9	78	24	23	19	45.6	. .	4.64	. .	. .	9	
120	Fitchburg (*a*)	. .	. .	. .	71	23	26	2	. .	44.0	1.88	0	. .	11	*a b*
121	" (*b*)	57.1	33.9	23.1	73	14	23	19	45.5	. .	2.18	T	. .	10	
122	Framingham . .	59.2	34.8	24.4	72	24	24	19	47.0	. .	2.63	. .	. .	10	
123	Gilbertville . . .	58.3	32.3	26.0	76	13, 24	20	6	45.3	. .	3.00	1	. .	12	
124	Groton (*a*) . .	58.7	33.6	25.2	76	24	22	2, 19	46.2	. .	2.17	1	. .	10	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
126	Holyoke	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	54.5	40.5	14.0	76	24	26	2	47.5	. .	2.41	. .	. .	6	
127	Lake Cochituate	60.9	31.7	29.2	74	23, 24	19	6	46.3	. .	2.51	. .	. .	8	
128	Lawrence . . .	57.9	32.8	25.1	74	24	23	2	45.4	. .	1.80	T	. .	12	
129	Leicester	53.4	34.5	18.9	72	14	20	19	43.9	43.2	2.40	1	. .	8	*b*
131	Long Plain . . .	52.9	39.5	13.4	72	24	24	2	46.2	. .	4.12	1	. .	11	*a*
133	Lowell (*b*) . .	55.3	34.4	20.9	71	23	24	19	44.8	. .	1.97	. .	. .	11	
136	" (*c*) . . .	55.9	33.6	22.3	73	23	23	19	44.8	. .	. .	. .	. .	10	
176	" (*d*) . . .	59.3	34.8	24.5	75	23	22	18	47.0	. .	. .	. .	. .	6	
134	Ludlow	56.8	30.2	26.6	75	13	15	2	43.5	. .	2.23	2	. .	9	
135	Lynn	51.8	38.3	13.5	71	24	25	18	45.0	. .	2.59	. .	. .	10	
137	Mansfield	56.2	33.9	22.3	74	24	22	19	45.4	. .	4.40	4	. .	10	
139	Middleboro' . .	55.7	33.0	22.7	76	24	21	2	44.4	. .	2.98	2	. .	9	
140	Milton	54.5	35.7	18.8	72	21	24	19	45.1	. .	3.34	1	. .	10	
141	Monson	59.0	29.4	29.6	77	13	12	2	44.2	. .	2.66	. .	. .	11	
173	Nahant	50.3	37.5	12.8	67	24	28	2, 19	43.9	. .	. .	. .	. .	. .	
146	Nantucket . . .	48.6	38.6	10.0	58	24	30	1	43.6	. .	1.17	0	. .	10	
147	New Bedford (*a*)	54.2	35.4	18.8	68	24	23	19	44.8	44.7	4.09	. .	. .	11	*b*
148	" " (*b*)	54.9	36.7	18.2	71	24	23	19	45.8	. .	3.65	. .	. .	10	
149	Newburyport (*a*)	55.4	35.7	19.7	75	24	25	19	45.6	44.9	1.78	T	. .	10	*b*
152	Northampton .	57.9	36.1	21.8	72	14	25	2	47.0	. .	1.96	T	. .	6	
153	Plymouth . . .	. .	. .	. .	70	23	26	6	. .	46.2	3.50	. .	. .	11	*a b*
154	Princeton . . .	54.9	33.3	21.6	69	23	19	1	44.1	. .	2.28	. .	. .	6	*h*
155	Provincetown .	52.0	37.0	15.0	69	24	30	19	44.5	. .	3.14	4	. .	11	
158	Salem (*a*) . . .	. .	. .	. .	74	24	29	2	. .	45.0	. .	. .	. .	. .	*a b*
160	South Hingham	. .	31.9	. .	. .	. .	18	2	. .	. .	3.78	. .	. .	9	
161	Springfield . . .	58.1	37.2	20.9	77	13	26	19	47.7	48.7	2.21	1	. .	11	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	58.2	36.1	22.1	74	24	25	19	47.2	45.8	3.96	4	. .	10	*b*
164	" (*b*) . .	58.0	34.2	23.8	79	24	24	19	46.1	. .	3.92	2	. .	9	
165	" (*c*) . .	57.3	33.0	24.3	75	24	23	2, 12	45.2	. .	3.81	T	. .	11	
181	Wakefield . . .	49.9	33.0	16.9	71	30	21	19	41.4	. .	2.33	1	. .	10	
168	Wellesley . . .	59.8	33.6	26.2	79	7	20	19	46.7	. .	2.86	1	. .	10	
169	Westboro' . . .	60.0	35.1	24.9	79	24	23	19	47.6	. .	2.62	1	. .	11	*a*
170	Williamstown .	54.8	33.6	21.2	73	13	23	16	44.2	44.7	1.46	0	. .	8	*b*
172	Worcester . . .	57.0	36.2	20.8	72	14, 15	24	19	46.6	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	Rhode Island.														
201	Block Island . .	49.9	39.2	10.7	63	24	28	19	44.0	. .	3.37	1	. .	9	
202	Bristol	53.5	37.7	15.8	62	14, 21	25	19	45.6	45.1	3.54	2	. .	11	*b*
210	Kingston	55.4	35.1	20.3	75	24	22	19	45.2	. .	4.28	3	. .	11	
204	Newport	56.0	39.4	16.6	67	14	28	1	47.7	. .	. .	. .	. .	. .	
205	Olneyville . . .	58.0	36.9	21.1	72	24	26	19	47.4	. .	. .	. .	. .	. .	
207	Providence (*a*) .	57.9	39.3	18.6	70	23	28	19	48.6	47.5	3.59	2	. .	11	*c*
208	" (*b*) .	58.1	35 0	23.1	70	13	23	19	46.6	. .	3.60	1	. .	8	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	56.8	34.8	22.0	78	24	22	19	45.8	. .	2.35	. .	. .	9	
222	Colchester . . .	58.3	34.5	23.8	78	13	24	19	46.4	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	59.4	36.5	22.9	80	13	24	2	48.0	45.1	3.10	. .	. .	11	*d*
237	Mansfield	54.8	33.9	20.9	74	13	22	19	44.4	44.7	3.15	1	. .	10	*b*
226	Middletown . .	58.9	35.9	23.0	78	13	25	2	47.4	46.9	2.84	2	. .	9	*b*
228	New Haven . .	56.0	37.9	18.1	70	24	24	2	47.0	. .	2.89	. .	. .	9	
229	New London . .	54.8	39.7	15.1	70	24	28	19	47.2	. .	4.86	2	. .	12	
230	Shelton	56.6	34.6	22.0	75	24	20	1	45.6	. .	2.62	. .	. .	8	
231	Thompson . . .	56.3	38.4	17.9	72	24	22	19	47.4	45.9	. .	. .	. .	. .	*a b i*
233	Voluntown . . .	57.1	33.0	24.1	77	13, 24	21	2	45.0	46.0	5.38	2	. .	8	*b*
235	Waterbury . . .	56.7	34.7	22.0	79	13	24	2	45.7	. .	2.43	3	. .	9	
	New York.														
251	Albany	58.2	36.4	21.8	79	13	25	2	47.3	. .	1.64	. .	. .	9	
252	Boyd's Corners .	. .	. .	. .	80	13	31	19	. .	49.5	3.03	2	. .	9	*a b*
253	Carmel	59.5	39.0	20.5	77	13	25	19	49.8	. .	2.96	2	. .	9	
254	New York (*a*) .	. .	. .	. .	79	13	29	2	. .	49.1	1.85	T	. .	10	*e*
255	" " (*b*) .	60.0	42.0	18.0	81	13	30	19	51.0	. .	2.58	. .	. .	13	
258	Poughkeepsie . .	60.8	34.0	26.7	80	13	18	2	47.4	. .	1.57	. .	. .	7	
256	Setauket	56.4	39.2	17.2	72	13	30	19	47.8	47.3	3.40	2	. .	10	*b*

STATIONS REPORTING PRECIPITATION ONLY.—APRIL, 1890.

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	1.81	. .	179	Robert's Dam, Mass.	2.47	2
35	Bristol, " . .	. .	. .	159	Salem (*b*), "	2.41	1
40	Lake Village, " . .	2.01	. .	166	Waltham, "	2.51	. .
44	Mine Falls, " . .	1.60	. .	171	Winchester, "	2.35	. .
48	Pennichuck Station, " . .	1.42	. .	203	Lonsdale, R. I.	4.02	3
53	Weir's Bridge, " . .	2.28	. .	206	Pawtucket, "	3.81	2
55	Wolfboro', " . .	1.57	. .	238	Birmingham Conn.	2.76	. .
75	Cornwall, Vt. . . .	2.24	. .	239	Clark's Falls, "	4.63	2
81	Newport, " . . .	. .	. .	247	Falls Village, "	2.06	1
107	Boston (*b*), Mass. . . .	2.78	. .	224	Hartford (*b*), "	3.00	. .
111	Chicopee, " . . .	2.44	. .	225	Lake Konomoc, "	4.92	. .
112	Clinton, " . . .	2.00	. .	249	Lebanon "	4.08	. .
119	Fiskdale, " . . .	2.14	. .	240	New Britain, "	. .	. .
130	Leominster, " . . .	2.22	T	227	New Hartford, "	2.03	. .
138	Medford, " . . .	2.48	. .	246	No. Woodstock, "	3.07	. .
142	Mt. Nonotuck, " . . .	1.75	. .	248	So. Manchester, "	2.98	. .
143	Mystic Lake, " . . .	2.46	. .	232	Uncasville, "	4.99	. .
144	Mystic Station, " . . .	2.43	. .	234	Wallingford, "	2.67	3
150	Newburyport (*b*), " . . .	2.01	. .	245	W. Simsbury, "	2.35	1
156	Randolph " . . .	2.68	T	257	S. E. Reservoir, N. Y.	3.72	. .

NOTES.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Maximum on 14th, 22d, 23d, 30th. *g*—Minimum on 1st, 6th, 18th, 19th. *h*—Mean for 25 days. *i*—Mean for 20 days.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	54.7	42.4	12.4	65	21	34	3	48.6	48.2	8.01	. .	. .	16	*c*
	Maine.														
2	Bar Harbor . .	59.3	43.8	15.5	68	24	35	3	51.6	. .	10.81	. .	. .	15	
3	Belfast	. .	. .	. .	69	31	40	2	. .	51.3	. .	. .	. .	. .	*a c*
14	Calais	60.9	43.0	18.0	70	24	31	3, 12	52.0	. .	8.63	. .	. .	13	
4	Eastport	53.8	42.0	11.8	65	21	35	30	47.9	. .	6.19	. .	. .	17	
5	Fairfield	62.4	43.3	19.1	71	*f*	29	2	52.8	. .	7.79	. .	. .	21	*f*
6	Gardiner	62.8	45.1	17.7	74	14, 16	32	3	54.0	52.4	7.84	. .	. .	15	*b*
7	Kent's Hill . . .	60.1	43.5	16.6	72	14	32	2	51.8	. .	6.94	. .	. .	17	
8	Lewiston	60.7	42.5	18.2	72	31	30	3	51.6	51.4	7.51	. .	. .	18	*b*
9	Mayfield	. .	. .	. .	68	16, 24	24	2	. .	48.8	10.29	. .	. .	17	*a b*
10	Orono	61.2	43.4	17.8	73	16	33	2	52.3	52.1	10.52	. .	. .	19	*b*
11	Petit Menan . .	. .	. .	. .	60	21	38	2	. .	49.7	. .	. .	. .	. .	*a b*
12	Portland	58.9	45.3	13.6	75	31	36	2	52.1	. .	6.10	. .	. .	17	
15	West Jonesport	. .	. .	. .	66	22	38	2	. .	47.8	. .	. .	. .	10	*a b*
	New Hampshire.														
33	Berlin Falls . .	63.5	37.8	25.7	75	20	22	12	50.8	. .	. .	. .	. .	. .	
34	Berlin Mills . .	62.6	37.1	25.5	71	*g*	25	2, 3	49.8	. .	5.02	. .	. .	16	*g*
37	Concord	68.8	45.7	23.1	80	14	33	2, 12	57.2	. .	5.05	. .	. .	16	
39	Hanover (*a*) . .	63.6	43.8	19.8	73	14	29	2	53.7	54.7	5.02	. .	. .	15	*b*
58	" (*b*)	66.1	42.5	23.6	77	14	28	12	54.3	55.3	5.34	. .	. .	17	*d*
42	Manchester (*b*)	67.5	47.0	20.5	77	31	36	3	57.2	56.8	6.00	. .	. .	15	*b*
43	" (*c*)	67.7	46.2	21.5	80	14	35	12	57.0	. .	4.54	. .	. .	15	
45	Nashua	69.8	45.9	23.9	82	14	33	12	57.8	57.1	4.88	. .	. .	14	*c*
57	Newton	67.7	44.3	23.4	85	20	32	3	56.0	. .	6.09	. .	. .	15	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	65.5	42.7	22.8	77	14	25	3	54.1	. .	5.32	. .	. .	12	
49	Plymouth . . .	66.6	41.0	25.6	80	3	25	3	53.8	. .	6.24	. .	. .	13	
51	Stratford	67.5	42.8	24.6	78	31	25	2	55.2	. .	7.00	. .	. .	14	
52	Walpole	65.7	42.3	23.4	75	14	26	2	54.0	. .	4.76	. .	. .	13	
54	West Milan . .	64.3	38.2	26.1	73	3	22	3	51.2	. .	5.91	T	. .	15	
	Vermont.														
71	Brattleboro' (*a*)	69.3	45.7	23.6	80	14	31	2	57.5	56.1	5.00	. .	. .	. .	*c*
72	" (*b*)	68.5	47.1	21.4	78	14	34	2, 12	57.8	56.2	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	79	20	35	1	. .	. .	6.12	. .	. .	17	
74	Chelsea	. .	. .	. .	68	3	34	2, 18	. .	51.3	5.35	. .	. .	17	*a b*
88	Hartland . . .	65.6	42.9	22.7	76	14	28	9	54.2	. .	6.50	. .	. .	19	
77	Jacksonville . .	66.1	40.8	25.2	78	24	25	3	53.4	52.6	5.87	. .	. .	14	*c*
78	Lunenburgh . .	60.5	48.9	11.6	78	3	32	1	54.7	56.9	7.29	. .	. .	15	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	62.0	41.7	20.3	73	20	24	2	51.8	. .	4.32	. .	. .	16	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	70	31	28	2	. .	54.4	7.60	. .	. .	12	*a b*
85	Vernon	. .	. .	. .	78	14	34	9	. .	56.7	5.19	. .	. .	8	*a c*
89	Weathersfield Ct.	62.6	42.1	20.5	72	25	29	1	52.4	. .	. .	. .	. .	10	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
102	" (*b*) . .	67.6	44.6	23.0	79	14	32	2, 12	56.0	56.4	5.14	. .	. .	15	*b*
177	" (*c*) . .	68.8	43.8	24.9	80	14	32	12	56.3	57.0	5.39	. .	. .	14	*e*
180	Andover	69.4	44.9	24.5	81	15	34	23	57.2	. .	5.07	. .	. .	7	
103	Beverly Farms .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
104	Blue Hill (sum't)	64.2	44.5	19.7	77	14	36	2	54.4	53.9	5.77	. .	. .	15	*c*
105	" " (base)	67.1	46.1	21.0	79	14	38	12	56.6	. .	5.62	. .	. .	. .	
174	" " (valley)	67.7	46.5	21.2	81	14	36	12	57.1	. .	5.58	. .	. .	. .	
106	Boston (*a*) . . .	65.2	48.9	16.3	80	14	39	2	57.0	. .	4.48	. .	. .	15	
175	Brewster	64.1	44.2	19.9	76	30	34	2	54.2	53.9	3.61	. .	. .	11	*d*
108	Cambridge (*a*) .	65.6	48.1	17.5	77	19	36	3	56.8	. .	5.06	. .	. .	12	
109	" (*b*) .	67.7	47.8	20.0	78	14	37	1, 2	57.8	. .	6.09	. .	. .	14	
110	Chestnut Hill .	68.8	45.6	23.2	82	14	34	3	57.2	. .	5.80	. .	. .	14	
114	Cotuit	61.2	47.7	13.5	70	14, 31	35	3	54.4	. .	3.53	. .	. .	9	
116	Deerfield	. .	. .	. .	84	6	39	2	. .	58.6	. .	. .	. .	. .	*a b*
117	Dudley	68.3	45.6	22.7	79	14	36	9	57.0	58.6	5.60	. .	. .	13	*b*
118	Fall River . . .	64.5	46.4	18.1	76	19	38	3	55.4	. .	6.30	. .	. .	14	
120	Fitchburg (*a*)	. .	. .	. .	78	14	40	2	. .	56.7	5.54	. .	. .	15	*a b*
121	" (*b*)	67.5	46.1	21.4	78	14	34	2	56.8	. .	5.50	. .	. .	15	
122	Framingham . .	69.8	46.6	23.2	81	14	34	3	58.2	. .	4.94	. .	. .	15	
123	Gilbertville . . .	70.3	45.2	25.1	80	14	31	12	57.8	. .	6.09	. .	. .	14	
124	Groton (*a*) . .	70.1	46.5	23.6	81	14	35	2, 9	58.3	. .	5.01	. .	. .	15	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
126	Holyoke	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	67.0	51.3	15.7	84	1	36	3	59.2	. .	5.07	. .	. .	12	
127	Lake Cochituate	71.5	44.5	27.0	83	14	31	3	58.0	. .	5.31	. .	. .	13	
128	Lawrence . . .	70.2	46.5	23.7	81	31	34	3	58.4	. .	5.54	. .	. .	14	
129	Leicester	66.1	45.4	20.7	79	24	33	2	55.8	54.6	5.57	. .	. .	15	*b*
131	Long Plain . . .	62.0	49.5	12.6	76	31	38	12	55.8	. .	8.00	. .	. .	16	*a*
133	Lowell (*b*) . .	67.8	47.4	20.4	79	14	36	3	57.6	. .	5.66	. .	. .	15	
136	" (*c*) . . .	68.0	46.4	21.6	82	14	34	12	57.2	. .	. .	. .	. .	15	
176	" (*d*) . . .	71.0	45.6	25.4	84	14	34	4	58.3	. .	. .	. .	. .	9	
134	Ludlow	66.8	42.5	24.2	77	1, 14	29	9	54.6	. .	5.56	. .	. .	16	
135	Lynn	62.1	47.5	14.6	75	14	39	1	54.8	. .	5.43	. .	. .	14	
137	Mansfield	66.4	45.2	21.2	78	14	33	3, 12	55.8	. .	6.54	. .	. .	14	
139	Middleboro' . .	65.1	46.1	19.0	77	14	31	3	55.6	. .	5.03	. .	. .	13	
140	Milton	65.5	41.9	23.6	79	14	31	3	53.7	56.3	5.31	. .	. .	14	*b*
141	Monson	69.5	43.2	26.3	80	1, 14	30	1	56.3	. .	5.86	. .	. .	15	
173	Nahant	59.8	47.0	12.8	72	31	40	2, 9	53.4	. .	. .	. .	. .	. .	
146	Nantucket . . .	56.9	46.9	10.0	67	31	36	3	52.1	. .	2.48	. .	. .	11	
147	New Bedford (*a*)	62.7	46.4	16.3	75	31	38	3, 9	54.5	54.5	6.73	. .	. .	17	*b*
148	" " (*b*)	62.4	47.2	15.2	75	31	34	3	54.8	. .	6.52	. .	. .	19	
149	Newburyport (*a*)	67.1	47.3	19.8	82	14	37	3	57.2	56.0	6.08	. .	. .	15	*b*
152	Northampton .	69.9	48.2	21.7	81	24, 31	37	2	59.6	. .	5.43	. .	. .	9	
153	Plymouth . . .	. .	. .	. .	80	14	42	2	. .	58.3	5.37	. .	. .	14	*a b*
154	Princeton . . .	65.8	44.7	21.1	76	14	32	2, 9	55.2	. .	4.58	. .	. .	15	
155	Provincetown .	61.4	47.4	14.0	76	31	38	12	54.4	. .	2.99	. .	. .	14	
158	Salem (*a*) . . .	. .	. .	. .	79	14	42	2	. .	54.8	. .	. .	. .	. .	*a b*
160	South Hingham	. .	44.7	. .	. .	. .	30	3	. .	. .	5.54	. .	. .	13	
161	Springfield . . .	69.0	49.0	20.0	80	14	38	2	59.0	59.9	5.36	. .	. .	15	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	67.6	47.5	20.1	82	31	34	3	57.6	56.5	5.76	. .	. .	13	*b*
164	" (*b*) . .	68.6	46.1	22.5	82	31	32	12	57.4	. .	5.48	. .	. .	13	
165	" (*c*) . .	66.6	45.3	21.3	79	14	30	3	56.0	. .	5.56	. .	. .	12	
181	Wakefield . . .	67.2	45.0	22.2	81	14	33	3, 9	56.1	. .	6.51	. .	. .	12	
168	Wellesley . . .	68.6	46.0	22.6	78	1	34	12	57.3	. .	5.69	. .	. .	10	
169	Westboro' . . .	72.2	47.6	24.6	86	14	37	12	59.9	. .	4.41	. .	. .	16	*a*
170	Williamstown .	65.0	45.9	19.0	73	14, 20	31	2	55.4	55.8	4.68	. .	. .	15	*b*
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Rhode Island.														
201	Block Island	56.6	47.8	8.8	66	31	42	2	52.4	..	3.86	..	..	13	
202	Bristol	62.4	48.6	13.8	78	31	41	2, 23	55.5	55.0	5.48	..	..	14	*b*
210	Kingston	62.8	45.9	16.9	75	31	36	3	54.4	..	5.33	..	..	12	
204	Newport	..	..	..	..	..	..	..	..	..	..	..	..	..	
205	Olneyville	66.2	49.3	16.9	77	31	39	9	57.8	..	..	..	..	..	
207	Providence (*a*)	..	..	..	..	..	..	..	..	..	..	..	..	..	
208	“ (*b*)	67.3	46.9	20.4	80	14	37	12	57.1	..	4.48	..	..	13	
209	Woonsocket	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Connecticut.														
221	Canton	69.5	45.9	23.6	82	14	31	18	57.7	..	5.01	..	..	12	
222	Colchester	67.5	45.8	21.7	79	31	35	12	56.6	..	..	..	..	..	
223	Hartford (*a*)	..	..	..	..	..	..	..	..	..	..	..	..	..	
237	Mansfield	66.0	44.9	21.1	77	1	34	2	55.4	54.9	6.33	..	..	17	*b*
226	Middletown	68.6	47.6	21.0	80	14	38	9	58.1	57.1	5.51	..	..	14	*b*
228	New Haven	65.2	48.5	16.7	79	31	38	2	56.8	..	4.24	..	..	14	
229	New London	62.6	50.0	12.6	77	31	42	2	56.3	..	4.51	..	..	14	
230	Shelton	67.2	46.4	20.8	78	14, 31	36	2, 8	56.8	..	5.14	..	..	13	
231	Thompson	63.6	52.4	11.2	74	1	35	2	58.0	55.6	..	..	..	..	*a b*
233	Voluntown	66.2	45.5	20.7	78	14	34	12	55.8	55.8	3.65	..	..	10	*b*
235	Waterbury	66.7	47.8	18.9	79	16	36	17	57.2	..	5.97	..	..	13	
	New York.														
251	Albany	66.8	47.4	19.4	78	31	34	2	57.1	..	5.19	..	..	15	
252	Boyd's Corners	..	..	..	81	24	42	9	..	60.2	5.74	..	..	11	*a b*
253	Carmel	71.0	46.6	24.4	80	24	31	9	58.8	..	6.06	..	..	13	
254	New York (*a*)	..	..	..	81	14	41	2	..	60.2	3.45	..	..	15	*e*
255	“ “ (*b*)	69.1	52.2	16.9	80	14	42	2	60.6	..	3.11	..	..	15	
258	Poughkeepsie	69.8	44.1	25.7	80	14, 31	28	9	57.0	..	4.75	..	..	13	
256	Setauket	66.7	49.7	17.0	76	31	41	2, 3	58.4	57.0	3.50	..	..	12	*b*

STATIONS REPORTING PRECIPITATION ONLY.—MAY, 1890.

No.	Station.	Total Precip.	Snowfall.	No.	Station.	Total Precip.	Snowfall.
32	Belmont, N.H.	5.78	..	159	Salem (*b*), Mass.	5.34	..
35	Bristol, “	..	..	166	Waltham, “	5.66	..
40	Lake Village, “	6.39	..	171	Winchester, “	6.41	..
44	Mine Falls, “	5.32	..	203	Lonsdale, R. I.	5.58	..
48	Pennichuck Station, “	4.59	..	206	Pawtucket, “	6.45	..
53	Weir's Bridge, “	6.34	..	238	Birmingham Conn.	..	..
55	Wolfboro', “	6.77	..	239	Clark's Falls, “	5.09	..
75	Cornwall, Vt.	5.49	..	247	Falls Village, “	4.73	..
81	Newport, “	..	..	224	Hartford (*b*), “	6.02	..
107	Boston (*b*), Mass.	5.42	..	225	Lake Konomoc, “	4.97	..
111	Chicopee, “	5.94	..	249	Lebanon “	4.71	..
112	Clinton, “	5.02	..	241	Newington “	6.14	..
119	Fiskdale, “	5.64	..	240	New Britain, “	..	..
130	Leominster, “	5.43	..	227	New Hartford, “	..	..
138	Medford, “	5.71	..	246	No. Woodstock, “	6.30	..
142	Mt. Nonotuck, “	4.23	..	248	So. Manchester, “	6.47	..
143	Mystic Lake, “	6.19	..	232	Uncasville, “	5.66	..
144	Mystic Station, “	5.83	..	234	Wallingford, “	4.22	..
150	Newburyport (*b*), “	6.88	..	245	W. Simsbury, “	4.89	..
156	Randolph “	6.21	..	257	S. E. Reservoir, N. Y.	5.92	..
179	Robert's Dam, “	5.65	..				

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Maximum on 14th, 16th, 24th. *g*—Maximum on 3d, 14th, 31st.

		Temperature.									Precipitation.				
									Mean.			Snowfall.			
Number.	Station.	Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	Reference letter to Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in	in.		
	New Brunswick.														
1	St. John	61.3	48.3	13.0	68	30	40	12	54.8	54.8	2.78	. .	. .	14	*c*
	Maine.														
2	Bar Harbor . .	66.4	50.6	15.8	83	18	45	13	58.5	. .	3.15	. .	. .	15	
3	Belfast	. .	. .	. .	80	18	48	13	. .	58.3	. .	. .	. .	10	*a c*
14	Calais	67.5	49.0	18.2	86	18	42	12	58.2	. .	3.21	. .	. .	11	
4	Eastport	60.5	47.5	13.0	71	21	44	4	54.0	. .	2.77	. .	. .	14	
5	Fairfield	72.3	50.0	22.3	88	18	40	3, 10	61.1	. .	2.97	. .	. .	14	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	66.0	50.2	15.8	83	18	42	13	58.1	. .	4.64	. .	. .	12	*f*
8	Lewiston	71.4	50.5	20.9	88	18	42	3, 10	61.0	60.8	3.71	. .	. .	13	*b*
9	Mayfield	. .	. .	. .	81	30	36	3	. .	58.2	3.97	. .	. .	13	*a b*
10	Orono	68.1	51.1	17.0	82	17	44	3	59.6	59.5	3.84	. .	. .	15	*b*
11	Petit Menan . .	. .	. .	. .	72	30	44	13	. .	57.4	. .	. .	. .	. .	*a b*
12	Portland	68.0	53.0	15.0	87	18	46	13	61.0	. .	4.53	. .	. .	9	
15	West Jonesport	. .	. .	. .	70	*g*	46	4	. .	54.4	. .	. .	. .	8	*a b g*
	New Hampshire.														
33	Berlin Falls . .	73.4	43.3	30.1	86	18	26	3	58.4	. .	. .	. .	. .	. .	
34	Berlin Mills . .	73.1	42.4	30.7	87	30	29	11	57.8	. .	4.29	. .	. .	12	
37	Concord	73.0	51.6	21.4	87	24	42	3, 10	62.4	. .	2.56	. .	. .	9	*b*
39	Hanover (*a*) . .	73.7	51.5	22.1	83	30	38	3	62.6	63.5	2.63	. .	. .	10	*d*
58	" (*b*)	75.7	50.5	25.2	88	11, 18	37	3	63.1	63.2	2.70	. .	. .	11	*b*
42	Manchester (*b*)	74.3	53.6	20.7	88	11	42	10	64.0	64.5	4.15	. .	. .	8	*b*
43	" (*c*)	73.6	52.6	21.0	87	30	42	10	63.1	. .	3.66	. .	. .	10	
45	Nashua	76.0	52.2	24.0	89	30	40	10	64.2	64.1	3.39	. .	. .	7	*c*
57	Newton	74.1	51.8	22.3	88	18, 30	44	1	63.0	. .	3.06	. .	. .	6	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	73.5	48.6	24.9	89	30	38	10	61.0	. .	4.21	. .	. .	10	
49	Plymouth . . .	78.6	47.8	30.8	89	30	34	3	63.2	. .	2.95	. .	. .	11	
51	Stratford	78.9	49.5	29.4	90	30	33	10	64.2	. .	3.88	. .	. .	11	
52	Walpole	73.9	52.0	21.9	85	30	38	3	62.4	. .	3.39	. .	. .	8	
54	West Milan . .	70.4	55.4	25.1	82	15	30	3	57.9	. .	6.46	T	. .	10	
	Vermont.														
71	Brattleboro' (*a*)	78.3	53.1	25.2	90	30	39	3	65.7	64.5	2.77	. .	. .	. .	*c*
72	" (*b*)	75.3	54.7	20.6	85	24, 30	41	3	65.0	64.2	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
74	Chelsea	. .	. .	. .	76	30	44	8	. .	59.8	3.11	. .	. .	11	*a b*
88	Hartland . . .	74.0	50.2	23.8	88	30	36	3	62.1	. .	2.75	. .	. .	9	
77	Jacksonville . .	76.5	48.5	28.0	88	30	35	3	62.5	62.0	2.34	. .	. .	10	*c*
78	Lunenburgh . .	70.2	55.6	14.6	82	16	44	8	62.9	62.4	4.57	. .	. .	11	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	71.2	50.1	21.2	83	18	36	3	60.6	. .	2.84	. .	. .	12	
83	Strafford	. .	. .	. .	84	30	46	8, 20	. .	63.8	2.90	. .	. .	8	*a b*
85	Vernon	. .	. .	. .	86	25	50	10	. .	65.5	1.83	. .	. .	. .	*a c*
89	Weathersfield Ct.	71.3	52.1	19.2	83	24	42	8	61.7	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
102	" (*b*) . .	76.2	53.1	23.1	86	30	38	3	64.6	64.6	1.48	. .	. .	9	*b*
177	" (*c*) . .	77.6	52.9	24.7	88	24, 25	40	10	65.3	66.5	1.53	. .	. .	8	*e*
180	Andover	72.5	53.7	18.8	85	18	47	1	63.1	. .	4.38	. .	. .	. .	
103	Beverly Farms .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
104	Blue Hill (sum't)	70.8	52.8	18.0	83	30	48	3	61.8	61.4	1.85	. .	. .	7	*c*
105	" " (base)	72.0	53.6	18.4	84	25	45	10	62.8	. .	1.97	. .	. .	. .	
174	" " (valley)	74.0	52.0	21.3	86	25	40	10	63.2	. .	1.90	. .	. .	. .	
106	Boston (*a*) . . .	72.1	56.3	15.8	87	18	50	13	64.2	. .	2.21	. .	. .	8	
175	Brewster	74.3	54.3	20.0	85	1	44	15	64.3	61.5	3.81	. .	. .	8	*d*
108	Cambridge (*a*) .	71.6	55.0	16.6	84	11	46	10	63.3	. .	2.80	. .	. .	8	
109	" (*b*) .	73.6	55.1	18.4	85	11	47	9	64.4	. .	3.51	. .	. .	11	
110	Chestnut Hill .	76.7	52.3	24.4	88	30	42	10	64.5	. .	2.60	. .	. .	9	
114	Cotuit	70.2	54.9	15.3	83	8	45	10	62.6	. .	3.68	. .	. .	11	
116	Deerfield	. .	. .	. .	89	30	49	3	. .	67.0	. .	. .	. .	. .	*a b*
117	Dudley	77.0	54.4	22.6	89	7	41	16	65.7	65.5	1.70	. .	. .	6	*h*
118	Fall River . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	Fitchburg (*a*)	. .	. .	. .	85	24	46	13	. .	63.6	1.96	. .	. .	8	*a b*
121	" (*b*)	73.3	53.4	19.9	86	30	43	10	63.4	. .	1.97	. .	. .	7	
122	Framingham . .	77.5	53.3	24.2	88	30	42	10	65.4	. .	1.97	. .	. .	9	
123	Gilbertville . .	77.9	50.4	27.5	87	30	39	8	64.2	. .	2.17	. .	. .	8	*h*
124	Groton (*a*) . .	75.2	54.3	20.9	86	24, 30	45	10	64.8	. .	3.08	. .	. .	9	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
126	Holyoke	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	74.2	59.4	14.8	84	*i*	50	10	66.8	. .	2.24	. .	. .	6	*i*
127	Lake Cochituate	78.3	52.4	25.9	89	30	41	3	65.4	. .	1.78	. .	. .	9	
128	Lawrence . . .	75.7	53.9	21.8	87	30	41	13	64.8	. .	3.71	. .	. .	9	
129	Leicester	72.3	52.9	19.4	86	24	44	13	62.6	62.1	2.75	. .	. .	8	*b*
131	Long Plain . . .	71.5	57.7	13.8	84	25	52	3, 14	64.6	. .	5.01	. .	. .	9	*a*
133	Lowell (*b*) . .	74.0	54.5	19.4	86	24	45	10	64.3	. .	3.52	. .	. .	9	
136	" (*c*) . . .	73.5	53.0	20.5	88	30	44	1	63.2	. .	. .	. .	. .	9	
176	" (*d*) . . .	76.6	54.0	22.6	90	24	46	1	65.3	. .	. .	. .	. .	6	
134	Ludlow	74.7	50.4	24.3	86	30	37	3	62.6	. .	2.87	. .	. .	12	
135	Lynn	69.3	54.7	14.6	83	11	49	*j*	62.0	. .	2.80	. .	. .	10	*j*
137	Mansfield	73.8	51.3	22.5	86	11	41	3	62.6	. .	3.26	. .	. .	11	
139	Middleboro' . .	73.2	50.6	22.5	85	25	37	3	61.8	. .	3.52	. .	. .	9	
140	Milton	72.5	50.2	22.3	85	18, 30	39	3	60.8	. .	1.94	. .	. .	7	
141	Monson	76.6	51.7	24.9	87	25	36	3	64.2	. .	2.23	. .	. .	12	
173	Nahant	70.2	54.4	15.8	84	12	48	1	62.3	. .	3.71	. .	. .	7	
146	Nantucket . . .	65.8	54.9	10.7	75	19	49	16	60.4	. .	3.49	. .	. .	12	
147	New Bedford (*a*)	72.2	55.0	17.3	84	25	48	1, 3	63.6	62.9	5.90	. .	. .	10	*b*
148	" " (*b*)	72.9	54.6	18.3	84	25	44	16	63.8	. .	5.53	. .	. .	13	
149	Newburyport (*a*)	73.6	54.2	19.3	86	30	46	10	63.9	63.2	3.43	. .	. .	9	*b*
152	Northampton .	80.0	57.4	22.5	91	18	47	13	68.7	. .	2.11	. .	. .	10	
153	Plymouth . . .	. .	. .	. .	85	11	52	15	. .	64.3	3.41	. .	. .	8	*a b*
154	Princeton . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.02	. .	. .	. .	
155	Provincetown .	71.3	54.4	16.9	83	25	44	10	62.8	. .	3.46	. .	. .	8	
158	Salem (*a*) . . .	. .	. .	. .	87	11	50	14	. .	62.8	. .	. .	. .	. .	*a b*
160	South Hingham	. .	50.7	. .	. .	. .	37	10	. .	. .	3.41	. .	. .	8	
161	Springfield . . .	77.2	57.9	19.3	88	25	47	3	67.5	68.3	1.83	. .	. .	9	*b*
162	Swampscott . .	70.4	57.0	13.4	84	25	50	13, 14	63.7	63.8	1.18	. .	. .	. .	*b k*
163	Taunton (*a*) . .	76.0	54.0	22.0	90	25	44	3	65.0	64.0	3.77	. .	. .	9	*b*
164	" (*b*) . .	75.6	53.8	21.8	88	25	44	3	64.7	. .	3.89	. .	. .	13	
165	" (*c*) . .	75.1	51.0	24.1	87	25	37	3	63.0	. .	3.60	. .	. .	11	
181	Wakefield . . .	73.8	52.3	21.5	86	30	42	3	63.0	. .	3.13	. .	. .	9	
168	Wellesley . . .	75.3	52.8	22.5	86	19	42	3	64.0	. .	2.06	. .	. .	6	
169	Westboro' . . .	79.8	55.6	24.2	94	24	44	3	67.7	. .	1.76	. .	. .	10	*a*
170	Williamstown .	73.6	54.0	19.6	81	24, 30	40	3	63.8	64.8	1.72	. .	. .	8	*b*
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Rhode Island.														
201	Block Island . .	67.4	55.6	11.8	80	25	50	3	61.5	. .	1.35	. .	. .	8	
202	Bristol	72.0	56.6	15.4	85	25	48	3	64.3	63.7	5.17	. .	. .	15	*b*
210	Kingston	73.3	53.8	19.5	86	25	47	1	63.6	. .	4.00	. .	. .	8	
204	Newport	74.1	57.0	17.1	86	25	52	13	65.6	. .	. .	. .	. .	. .	
205	Olneyville . . .	74.5	57.7	16.8	85	11	51	3	66.1	. .	. .	. .	. .	. .	
207	Providence (*a*) .	77.4	58.0	19.4	88	18	50	14	67.7	65.9	2.68	. .	. .	14	*c*
208	" (*b*) .	76.7	54.3	22.4	88	18	44	10	65.5	. .	2.45	. .	. .	12	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	77.6	57.9	19.7	88	11	43	10	67.8	. .	3.42	. .	. .	8	
222	Colchester . . .	75.6	54.6	21.0	85	18	42	3	65.1	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
237	Mansfield	73.5	53.4	20.1	83	25	40	3	63.4	63.3	2.79	. .	. .	10	*b*
226	Middletown . .	76.9	56.1	20.8	88	25	46	3	66.5	65.9	2.16	. .	. .	9	*b*
228	New Haven . .	74.8	57.1	17.7	88	25	48	3	65.9	. .	3.12	. .	. .	11	
229	New London . .	72.4	58.2	14.2	87	25	51	3	65.3	. .	2.94	. .	. .	10	
230	Shelton	76.3	55.8	20.5	87	25	45	2	66.0	. .	2.80	. .	. .	9	
231	Thompson . . .	70.2	57.4	12.8	82	25	47	1, 3	63.8	62.7	. .	. .	. .	9	*a b*
233	Voluntown . . .	76.0	51.4	24.6	86	25	38	3	63.7	63.4	3.26	. .	. .	9	*b*
235	Waterbury . . .	75.8	56.9	18.9	88	25	45	1, 9	66.4	. .	3.26	. .	. .	12	
	New York.														
251	Albany	78.9	58.2	20.7	89	5, 30	46	3	68.6	. .	2.72	. .	. .	13	
252	Boyd's Corners .	. .	. .	. .	93	5	56	8	. .	69.5	3.56	. .	. .	9	*a b*
253	Carmel	79.2	58.0	21.2	88	30	47	8	68.6	. .	3.26	. .	. .	9	
254	New York (*a*) .	. .	. .	. .	90	5	54	8	. .	70.1	4.67	. .	. .	9	*e*
255	" " (*b*) .	78.7	62.1	16.6	89	5	55	13	70.4	. .	4.19	. .	. .	9	
258	Poughkeepsie . .	79.9	54.8	25.1	89	25	40	3	67.4	. .	2.43	. .	. .	8	
256	Setauket	75.3	58.7	16.6	87	25	50	1	67.0	66.1	2.97	. .	. .	7	*b*

STATIONS REPORTING PRECIPITATION ONLY.—JUNE, 1890.

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	1.65	. .	159	Salem (*b*), Mass.	4.31	. .
35	Bristol, " . .	. .	. .	166	Waltham, "	2.56	. .
40	Lake Village, " . .	2.71	. .	171	Winchester, "	3.42	. .
44	Mine Falls, " . .	2.61	. .	203	Lonsdale, R. I.	2.62	. .
48	Pennichuck Station, " . .	3.46	. .	206	Pawtucket, "	2.84	. .
53	Weir's Bridge, " . .	2.37	. .	238	Birmingham Conn.	. .	. .
55	Wolfboro', " . .	3.81	. .	239	Clark's Falls, "	. .	. .
75	Cornwall, Vt. . . .	2.50	. .	247	Falls Village, "	3.24	. .
107	Boston (*b*), Mass. . . .	2.53	. .	224	Hartford (*b*), "	2.86	. .
111	Chicopee, " . . .	. .	. .	225	Lake Konomoc, "	2.96	. .
112	Clinton, " . . .	2.70	. .	249	Lebanon "	3.33	. .
119	Fiskdale, " . . .	2.23	. .	240	New Britain, "	. .	. .
130	Leominster, " . . .	2.66	. .	227	New Hartford, "	. .	. .
138	Medford, " . . .	3.53	. .	241	Newington "	. .	. .
142	Mt. Nonotuck, " . . .	2.63	. .	246	No. Woodstock, "	3.37	. .
143	Mystic Lake, " . . .	3.34	. .	248	So. Manchester, "	2.74	. .
144	Mystic Station, " . . .	3.32	. .	232	Uncasville, "	3.05	. .
150	Newburyport (*b*), " . . .	2.10	. .	234	Wallingford, "	3.34	. .
156	Randolph " . . .	4.35	. .	245	W. Simsbury, "	2.92	. .
179	Robert's Dam, " . . .	2.33	. .	257	S. E. Reservoir, N. Y.	3.63	. .

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Mean for 27 days. *g*—Maximum on 2d, 11th, 22d. *h*—Mean for 21 days. *i*—Maximum on 11th, 18th, 24th, 25th. *j*—Minimum on 9th, 12th, 18th. *k*—Observations from 12th to 30th.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	New Brunswick.														
1	St. John	68.8	54.8	14.0	76	14	49	19, 21	61.8	61.5	2.08	. .	. .	10	*c*
	Maine.														
2	Bar Harbor . .	74.7	55.3	19.3	86	16	44	10	65.0	. .	0.99	. .	. .	8	
3	Belfast	. .	. .	. .	84	16	56	10	. .	64.7	. .	. .	. .	9	*a c*
14	Calais	76.8	56.0	20.8	86	29	46	22	66.4	. .	2.59	T	. .	12	
4	Eastport	69.4	52.1	17.3	82	31	48	10	60.8	. .	1.97	. .	. .	11	
5	Fairfield	78.2	55.2	23.0	90	16	42	23	66.7	. .	3.81	. .	. .	12	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	75.4	57.5	17.9	87	8	44	10	66.4	. .	3.87	. .	. .	9	
8	Lewiston	77.4	56.5	20.9	91	30	48	*f*	67.0	66.6	4.83	. .	. .	9	*b f*
9	Mayfield	. .	. .	. .	85	30	45	10	. .	64.6	3.45	. .	. .	11	*a b*
10	Orono	76.0	56.5	19.5	86	30	46	22	66.2	66.2	3.84	. .	. .	11	*b*
11	Petit Menan . .	. .	. .	. .	73	7	50	22	. .	60.1	. .	. .	. .	. .	*a b*
12	Portland	75.6	59.3	16.3	93	31	51	10	67.4	. .	3.58	. .	. .	7	
16	Sorrento	72.5	53.7	18.8	84	16	45	10, 19	63.6	. .	1.52	. .	. .	9	*g*
15	West Jonesport	. .	. .	. .	78	8	52	12	.	59.7	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	77.4	47.0	30.4	90	8	35	10, 22	62.2	. .	. .	. .	. .	. .	
34	Berlin Mills . .	77.4	. .	. .	90	8	. .	. .	. .	. .	4.09	. .	. .	9	
37	Concord	79.1	58.5	20.6	91	8, 31	45	21	68.8	. .	3.98	. .	. .	9	
39	Hanover (*a*) . .	78.0	55.3	22.7	91	31	40	22	66.6	67.5	3.85	. .	. .	8	*b*
58	" (*b*)	80.8	53.5	27.4	94	15	38	22	67.1	67.2	3.23	. .	. .	10	*d*
42	Manchester (*b*)	80.5	58.8	21.7	92	30	44	22	69.6	70.4	3.02	. .	. .	8	*b*
43	" (*c*)	79.6	57.5	22.1	93	8	42	22	68.6	. .	2.91	. .	. .	8	
45	Nashua	82.4	56.1	26.3	95	8	43	12	69.2	69.5	3.85	. .	. .	7	*c*
57	Newton	81.5	56.2	25.3	94	8	42	22	68.8	. .	4.07	. .	. .	6	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	78.5	52.8	25.7	92	30	41	10	65.6	. .	4.72	. .	. .	7	
49	Plymouth . . .	81.6	51.0	30.6	96	8	38	22	66.3	. .	4.46	. .	. .	8	
51	Stratford	81.3	54.6	26.7	93	30	40	22	68.0	. .	3.04	. .	. .	8	
52	Walpole	77.9	54.3	23.6	90	8	40	21	66.1	. .	4.26	. .	. .	9	
54	West Milan . .	74.5	49.1	25.3	88	8, 15	36	22	61.8	. .	3.08	. .	. .	8	
	Vermont.														
71	Brattleboro' (*a*)	81.8	56.5	25.3	96	8	41	21	69.1	68.3	3.17	. .	. .	. .	*c*
72	" (*b*)	79.6	59.5	20.1	93	31	43	21	69.6	69.3	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	91	31	48	18	. .	. .	3.33	. .	. .	12	
74	Chelsea	. .	. .	. .	82	30	51	19	. .	63.7	2.49	. .	. .	9	*a b*
88	Hartland . . .	79.8	55.3	24.5	92	8, 15	40	21	67.5	. .	2.81	. .	. .	7	
77	Jacksonville . .	79.1	50.9	28.2	92	8	36	10, 21	65.0	64.6	3.28	. .	. .	11	*c*
78	Lunenburgh . .	79.4	60.9	18.5	90	*h*	40	10	70.1	69.8	3.56	. .	. .	9	*b h*
79	Manchester . .	. .	. .	. .	92	31	48	21	. .	68.6	3.61	. .	. .	9	*a b*
82	Northfield . . .	73.8	51.4	22.4	89	8	38	21	62.6	. .	2.87	. .	. .	17	
83	Strafford	. .	. .	. .	88	15	46	10, 21	. .	67.9	4.00	. .	. .	6	*a b*
85	Vernon	. .	. .	. .	98	8	48	21	. .	69.3	3.01	. .	. .	5	*a c*
89	Weathersfield Ct.	76.3	56.1	20.2	88	8, 31	44	20	66.2	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	92	8	42	21	. .	70.0	5.56	. .	. .	. .	*b*
102	" (*b*) . .	79.7	56.2	23.5	92	8	41	10, 21	68.0	68.1	5.44	. .	. .	9	*b*
177	" (*c*) . .	81.2	55.6	25.6	94	8	40	10	68.4	69.8	5.63	. .	. .	9	*e*
180	Andover	79.1	59.4	19.7	92	16	47	10	69.8	. .	1.87	. .	. .	6	
104	Blue Hill (sum't)	78.5	58.1	20.4	92	31	46	10	68.3	68.0	1.52	. .	. .	8	*c*
105	" " (base)	78.9	59.6	19.3	92	31	47	10	69.2	. .	1.52	. .	. .	. .	
174	" " (valley)	80.3	56.6	23.7	94	31	42	12	68.4	. .	1.55	. .	. .	. .	
106	Boston (*a*) . . .	79.0	62.9	16.1	95	31	52	21	71.0	. .	1.93	. .	. .	9	
175	Brewster	81.6	62.0	19.6	95	16	51	13	69.8	68.5	1.30	. .	. .	5	*d*
108	Cambridge (*a*) .	78.8	61.3	17.5	91	31	51	24	70.0	. .	1.42	. .	. .	5	
109	" (*b*) .	81.2	62.7	18.5	93	31	51	11, 20	72.0	. .	2.77	. .	. .	9	
110	Chestnut Hill .	82.9	58.9	24.0	94	31	47	24	70.9	. .	2.43	. .	. .	7	
182	Concord	81.4	59.0	22.4	95	31	46	11	70.2	. .	1.70	. .	. .	6	
114	Cotuit	76.4	61.5	14.9	90	16	48	21	69.0	. .	1.60	. .	. .	9	
116	Deerfield	. .	. .	. .	98	15	50	21	. .	70.6	. .	. .	. .	. .	*a b*
117	Dudley	82.2	64.1	18.1	91	8	55	20	73.1	70.8	3.57	. .	. .	6	*b*
118	Fall River . . .	79.6	61.7	17.9	92	16	50	10, 21	70.6	. .	2.19	. .	. .	6	
120	Fitchburg (*a*)	. .	. .	. .	92	8	53	11	. .	69.5	3.71	. .	. .	8	*a b*
121	" (*b*)	78.9	58.5	20.4	92	8	44	22	68.7	. .	4.75	. .	. .	8	
122	Framingham . .	83.3	59.0	24.3	95	16	47	22	71.2	. .	2.37	. .	. .	11	
123	Gilbertville . . .	81.9	56.4	25.5	92	31	40	21	69.2	. .	4.76	. .	. .	9	
124	Groton (*a*) . .	81.5	60.1	21.4	92	*i*	47	*j*	70.8	. .	4.20	. .	. .	8	*i j*
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	80.2	64.1	16.1	94	31	50	10	72.2	. .	1.47	. .	. .	6	
127	Lake Cochituate	85.0	54.4	30.6	97	16	37	21	69.7	. .	2.31	. .	. .	8	
128	Lawrence . . .	88.4	62.4	26.0	100	16	48	21, 24	75.4	. .	2.62	. .	. .	9	
129	Leicester	. .	. .	. .	90	8	46	10	67.7	67.4	4.36	. .	. .	9	*b*
131	Long Plain . . .	76.8	66.4	10.4	90	16	56	23	71.6	. .	3.07	. .	. .	7	*a*
133	Lowell (*b*) . .	80.4	60.2	20.2	92	16	48	21, 22	70.3	. .	3.44	. .	. .	7	
136	" (*c*) . . .	80.3	58.2	22.1	94	8	44	10	69.2	. .	. .	. .	. .	. .	
176	" (*d*) . . .	84.0	60.0	24.0	98	8	49	*k*	72.0	. .	. .	. .	. .	6	*k*
134	Ludlow	78.9	54.6	24.3	91	8	38	21	66.7	. .	5.65	. .	. .	9	
135	Lynn	75.5	61.2	14.3	91	31	49	9, 20	68.4	. .	1.69	. .	. .	12	
137	Mansfield	80.9	58.0	22.9	94	31	44	*l*	69.4	. .	2.00	. .	. .	8	*l*
139	Middleboro' . .	79.5	56.5	23.1	91	16	41	21	68.0	. .	1.48	. .	. .	6	
140	Milton	79.3	49.8	29.5	94	31	42	10	64.5	69.4	1.41	. .	. .	6	*b*
141	Monson	79.7	54.5	25.2	98	30	38	21	67.1	. .	5.16	. .	. .	9	
173	Nahant	76.4	61.0	15.4	91	16	50	10	68.7	. .	1.83	. .	. .	6	
146	Nantucket . . .	72.7	61.6	11.1	82	9, 28	55	14	67.2	. .	2.90	. .	. .	8	
147	New Bedford (*a*)	76.2	59.7	16.5	90	16	50	*m*	68.0	67.9	1.91	. .	. .	7	*b m*
148	" " (*b*)	78.1	59.5	18.6	93	16	46	24	68.8	. .	1.98	. .	. .	11	
149	Newburyport (*a*)	79.7	59.6	20.1	94	31	50	21	69.7	69.2	2.90	. .	. .	8	*b*
152	Northampton .	82.8	61.4	21.3	96	8	46	21	72.1	. .	6.24	. .	. .	7	
153	Plymouth . . .	. .	. .	. .	90	31	56	19	. .	70.9	1.17	. .	. .	5	*a b*
154	Princeton . . .	78.3	57.4	20.9	88	16	44	20	67.8	. .	4.38	. .	. .	8	
155	Provincetown .	78.6	62.2	16.4	94	16	54	21	70.4	. .	1.76	. .	. .	7	
158	Salem (*a*) . . .	. .	. .	. .	94	31	55	20	. .	68.4	. .	. .	. .	. .	*a b*
160	South Hingham	. .	56.6	. .	. .	. .	41	24	. .	. .	1.87	. .	. .	7	
161	Springfield . . .	81.5	62.1	19.4	95	8	46	21	71.8	72.4	4.69	. .	. .	9	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.21	. .	. .	. .	
163	Taunton (*a*) . .	80.9	59.4	21.5	94	16	48	*n*	70.2	69.1	1.47	. .	. .	11	*b n*
164	" (*b*) . .	82.4	64.4	18.0	93	16, 31	47	24	73.4	. .	1.22	. .	. .	11	
165	" (*c*) . .	81.2	56.7	24.5	94	16	41	12	69.0	. .	1.44	. .	. .	8	
181	Wakefield . . .	81.3	60.1	20.1	93	31	45	10	70.7	. .	1.80	. .	. .	5	*s*
168	Wellesley . . .	81.3	58.8	22.5	93	16	43	12	70.2	. .	1.88	. .	. .	3	
169	Westboro' . . .	86.2	59.6	26.6	98	15	46	21	72.9	. .	2.43	. .	. .	9	*a*
170	Williamstown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Rhode Island.														
201	Block Island . .	73.1	62.0	11.1	85	16	54	10	67.6	. .	1.39	. .	. .	6	
202	Bristol	77.0	61.9	15.1	88	16	50	11	69.4	68.3	1.66	. .	. .	11	*b*
210	Kingston	78.4	59.1	19.3	91	16	47	10	68.8	. .	2.33	. .	. .	8	
204	Newport	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
205	Olneyville . . .	80.2	63.7	16.5	93	31	52	10	72.0	. .	. .	. .	. .	. .	
207	Providence (*a*) .	82.6	63.7	18.9	96	8	52	21	73.2	71.9	1.81	. .	. .	8	*c*
208	" (*b*) .	83.4	59.5	23.9	95	8	46	12	71.4	. .	1.16	. .	. .	8	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	79.5	58.9	20.6	92	15	44	22	69.2	. .	4.66	. .	. .	8	
222	Colchester . . .	79.1	58.6	20.5	91	16	45	22	68.8	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
237	Mansfield	77.9	57.1	20.8	89	8	42	19	67.5	67.5	2.81	. .	. .	7	*b*
226	Middletown . .	80.6	59.8	20.8	94	31	46	21	70.2	69.0	4.16	. .	. .	9	*b*
228	New Haven . .	78.4	60.5	17.9	91	8, 31	49	21, 22	69.4	. .	6.59	. .	. .	10	
229	New London . .	76.8	62.6	14.2	88	16	53	21	69.7	. .	3.07	. .	. .	12	
230	Shelton	79.3	61.0	18.3	93	8	49	18, 20	70.2	. .	4.95	. .	. .	11	
231	Thompson . . .	75.1	63.7	11.4	88	31	47	21	69.4	68.1	. .	. .	. .	. .	*a b*
233	Voluntown . . .	80.4	58.5	21.9	92	16	44	12	69.4	69.0	2.79	. .	. .	7	*b*
235	Waterbury . . .	80.0	60.1	19.9	96	31	43	21	70.0	. .	4.96	. .	. .	8	
	New York.														
251	Albany	81.8	61.1	20.7	98	8	48	10, 21	71.4	. .	2.37	. .	. .	13	
252	Boyd's Corners .	. .	. .	. .	97	8	55	20	. .	72.0	5.46	. .	. .	10	*a b*
253	Carmel	81.7	60.3	21.4	92	8	45	19	71.0	. .	5.05	. .	. .	10	
254	New York (*a*) .	. .	. .	. .	98	8	55	20	. .	73.1	4.49	. .	. .	10	*e*
255	" " (*b*) .	81.1	65.8	15.3	95	8	56	10	73.4	. .	3.96	. .	. .	10	
258	Poughkeepsie . .	82.0	56.5	25.5	98	8	40	21	69.2	. .	4.98	. .	. .	6	
256	Setauket	79.4	62.9	16.5	91	8	53	12	71.2	70.4	5.25	. .	. .	9	*b*

STATIONS REPORTING PRECIPITATION ONLY.—JULY, 1890.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.00	. .	159	Salem (*b*), Mass.	2.36	. .
35	Bristol, " . .	. .	. .	166	Waltham, "	2.13	. .
40	Lake Village, " . .	4.58	. .	171	Winchester, "	2.19	. .
44	Mine Falls, " . .	4.34	. .	203	Lonsdale, R. I.	1.76	. .
48	Pennichuck Station, " . .	4 50	. .	206	Pawtucket, "	1.25	. .
53	Weir's Bridge, " . .	4.76	. .	238	Birmingham Conn.	4.23	. .
55	Wolfboro', " . .	4.72	. .	239	Clark's Falls, "	. .	. .
75	Cornwall, Vt. . . .	2.31	. .	247	Falls Village, "	6.43	. .
107	Boston (*b*), Mass. . . .	1.75	. .	224	Hartford (*b*), "	5.25	. .
111	Chicopee, " . . .	5.43	. .	225	Lake Konomoc, "	4.01	. .
112	Clinton, " . . .	3.15	. .	249	Lebanon "	2.05	. .
119	Fiskdale, " . . .	3.14	. .	240	New Britain, "	. .	. .
130	Leominster, " . . .	4.62	. .	227	New Hartford, "	. .	. .
138	Medford, " . . .	2.07	. .	241	Newington "	4.44	. .
142	Mt. Nonotuck, " . . .	5.46	. .	246	No. Woodstock, "	3.10	. .
143	Mystic Lake, " . . .	2.34	. .	248	So. Manchester, "	3.89	. .
144	Mystic Station, " . . .	. .	. .	232	Uncasville, "	4.94	. .
150	Newburyport (*b*), " . . .	2.08	. .	234	Wallingford, "	4.83	. .
156	Randolph " . . .	1.02	. .	245	W. Simsbury, "	4.77	. .
179	Robert's Dam, " . . .	2.66	. .	257	S. E. Reservoir, N. Y.	5.08	. .

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Minimum on 10th, 12th, 21st. *g*—Mean for 28 days. *h*—Maximum on 1st, 8th, 30th. *i*—Maximum on 8th, 16th, 31st. *j*—Minimum on 10th, 13th, 21st. *k*—Minimum on 12th, 19th, 22d. *l*—Minimum on 10th, 23d, 24th. *m*—Minimum on 10th, 20th, 21st. *n*—Minimum on 20th, 21st, 24th. *s*—19 days.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	67.9	57.0	10.9	77	2	49	19	62.4	61.8	7.22	. .	. .	16	*c*
	Maine.														
2	Bar Harbor . .	74.1	57.7	16.4	86	4	49	16	65.9	. .	5.93	. .	. .	11	
3	Belfast	. .	. .	. .	84	5	56	16, 23	. .	63.6	. .	. .	. .	12	*a c*
14	Calais	74.2	56.1	18.1	90	4	45	19	65.2	. .	7.90	. .	. .	13	
4	Eastport	67.8	54.9	12.9	80	5	52	16	61.4	. .	5.35	. .	. .	14	
5	Fairfield	76.5	54.7	21.8	92	4	41	26	65.6	. .	3.57	. .	. .	14	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	73.8	55.8	18.0	88	4	47	16	64.8	. .	5.07	. .	. .	11	
17	Green Mountain	65.3	54.8	10.5	79	4	46	16	60.0	. .	6.15	. .	. .	11	
8	Lewiston	75.5	56.1	19.4	93	4	47	26	65.8	65.5	3.47	. .	. .	12	*b*
9	Mayfield	. .	. .	. .	90	4	44	16, 21	. .	62.2	6.40	. .	. .	14	*a b*
10	Orono	72.0	55.9	16.1	90	4	45	19	64.0	64.8	4.55	. .	. .	17	*b*
11	Petit Menan . .	. .	. .	. .	75	5	50	6, 30	.	62.6	. .	. .	. .	. .	*a b*
12	Portland	72.9	58.9	14.0	88	4	49	25	66.0	. .	2.99	. .	. .	11	
16	Sorrento	73.0	56.0	17.0	82	4	46	19	64.5	. .	5.69	. .	. .	11	
15	West Jonesport	. .	. .	. .	78	11	51	30	. .	60.9	. .	. .	. .	10	*a b*
	New Hampshire.														
33	Berlin Falls . .	74.5	45.3	29.2	93	4	32	16	59.9	. .	. .	. .	. .	. .	
34	Berlin Mills . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
37	Concord	75.5	56.8	18.7	88	4	46	17, 19	66.1	. .	3.56	. .	. .	12	
39	Hanover (*a*) . .	74.4	55.3	19.1	88	4	42	16	64.8	64.6	7.77	. .	. .	10	*b*
58	" (*b*)	78.1	53.5	24.6	91	2	38	16	65.8	64.5	7.69	. .	. .	10	*d*
59	Littleton	. .	. .	. .	84	4	42	19	. .	62.8	6.91	. .	. .	9	*a c*
42	Manchester (*b*)	76.6	58.0	18.6	88	4, 5	46	19	67.3	66.8	4.76	. .	. .	13	*b*
43	" (*c*)	76.4	56.9	19.5	87	5	46	19	66.6	. .	4.57	. .	. .	13	
45	Nashua	78.9	57.1	21.8	90	5	47	25	68.0	66.9	5.86	. .	. .	17	*c*
57	Newton	77.2	55.7	21.5	88	5	44	25	66.4	. .	4.24	. .	. .	7	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	76.0	52.6	23.4	90	4	41	16	64.3	. .	6.05	. .	. .	10	
49	Plymouth . . .	82.5	52.0	30.5	94	4	38	19	67.2	. .	5.60	. .	. .	11	
51	Stratford	78.6	51.7	26.9	92	4, 5	38	16, 19	65.2	. .	6.46	. .	. .	11	
52	Walpole	74.1	54.1	20.0	88	4	42	16	64.1	. .	6.10	. .	. .	15	
54	West Milan . .	73.2	47.8	25.4	89	4	34	16, 19	60.5	. .	7.06	. .	. .	8	
	Vermont.														
71	Brattleboro' (*a*)	79.6	56.9	22.7	90	4	43	16	68.2	66.2	7.93	. .	. .	. .	*c*
72	" (*b*)	77.1	59.4	18.7	88	4	44	25	68.2	66.3	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	90	4	50	31	. .	. .	6.76	. .	. .	14	
74	Chelsea	. .	. .	. .	83	4	45	19	. .	61.4	7.20	. .	. .	14	*a b*
88	Hartland . . .	76.7	55.8	20.9	88	4	40	16	66.2	. .	6.37	. .	. .	10	
77	Jacksonville . .	76.6	51.5	25.1	88	2	36	16	64.0	62.5	6.56	. .	. .	12	*c*
78	Lunenburgh . .	75.7	60.2	15.5	90	4	48	16	68.0	67.9	6.15	. .	. .	16	*b*
79	Manchester . .	. .	. .	. .	90	2	49	16	. .	66.0	4.66	. .	. .	11	*a b*
82	Northfield . . .	72.9	52.0	20.9	88	5	36	13	62.4	. .	6.98	. .	. .	16	
83	Strafford	. .	. .	. .	88	4, 5	46	16, 25	. .	65.9	8.85	. .	. .	8	*a b*
85	Vernon	. .	. .	. .	88	4, 5	48	25	. .	66.8	6.46	. .	. .	8	*a c*
89	Weathersfield Ct.	72.5	54.3	18.2	89	4	45	23	63.4	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	86	4	43	25	. .	67.1	5.54	. .	. .	. .	*a b*
102	" (*b*) . .	76.6	57.2	19.4	86	4	42	25	66.9	66.3	4.60	. .	. .	14	*b*
177	" (*c*) . .	78.2	56.2	22.0	88	6	42	25	67.2	67.2	4.88	. .	. .	14	*e*
180	Andover . . .	76.3	58.3	18.0	87	5	45	25	67.3	. .	. .	. .	. .	. .	
104	Blue Hill (sum't)	74.8	57.9	16.9	87	5	46	25	66.4	65.9	3.10	. .	. .	12	*c*
105	" " (base)	75.7	58.7	17.2	87	5	47	25	67.2	. .	3.05	. .	. .	. .	
174	" " (valley)	77.8	53.6	24.2	89	5	43	25	65.7	. .	2.82	. .	. .	. .	
106	Boston (*a*) . . .	76.1	61.7	14.4	89	4	50	25	68.9	. .	2.70	. .	. .	12	
175	Brewster	74.0	60.8	13.2	86	2, 5	51	24	67.4	67.9	2.83	. .	. .	6	*d*
108	Cambridge (*a*) .	75.4	60.4	15.0	91	1	48	25	67.9	. .	2.85	. .	. .	12	
109	" (*b*) .	77.5	60.4	17.1	88	5	50	24	69.0	. .	3.48	. .	. .	11	
110	Chestnut Hill .	79.2	58.6	20.6	90	5	48	25	68.9	. .	3.37	. .	. .	10	
182	Concord	77.3	57.6	19.7	89	4	48	24	67.5	. .	4.20	. .	. .	10	
114	Cotuit	74.4	62.1	12.3	84	4, 5	50	25	68.2	. .	4.98	. .	. .	8	
116	Deerfield	. .	. .	. .	91	4	38	25	. .	68.2	. .	. .	. .	. .	*a b*
117	Dudley	77.9	62.1	17.8	89	17	53	31	71.0	68.3	5.67	. .	. .	8	*b*
118	Fall River . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	Fitchburg (*a*)	. .	. .	. .	86	4, 5	52	24. 25	. .	66.0	6.07	. .	. .	12	*a b*
121	" (*b*)	75.2	57.6	17.7	85	4, 5	47	25	66.4	. .	6.60	. .	. .	11	
122	Framingham . .	79.8	58.7	21.1	88	4, 5	47	25	69.2	. .	3.72	. .	. .	11	
123	Gilbertville . . .	77.8	55.6	22.2	87	4, 5	40	25	66.7	. .	7.96	. .	. .	13	
124	Groton (*a*) . .	76.4	59.4	17.0	86	4, 5	48	25	67.9	. .	6.37	. .	. .	14	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	77.6	63.2	14.4	90	4, 5	50	*f*	70.4	. .	4.48	. .	. .	10	*f*
127	Lake Cochituate	81.9	54.4	27.5	90	*g*	38	25	68.2	. .	3.34	. .	. .	12	*g*
128	Lawrence . . .	80.3	59.1	21.2	94	5	48	25	69.7	. .	5.03	. .	. .	14	
129	Leicester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
131	Long Plain . . .	75.9	65.0	11.0	86	1	50	25	70.4	. .	4.52	. .	. .	6	*a*
133	Lowell (*b*) . .	77.2	59.7	17.5	87	3	49	25	68.4	. .	4.86	. .	. .	13	
136	" (*c*) . . .	76.7	57.9	18.8	88	4	46	25	67.3	. .	. .	. .	. .	. .	
176	" (*d*) . . .	80.4	56.3	24.1	93	3	51	16	68.4	. .	. .	. .	. .	4	
134	Ludlow	75.5	55.5	20.0	84	*h*	40	25	65.5	. .	5.91	. .	. .	13	*h*
135	Lynn	73.0	61.0	12.0	84	5	49	24	67.0	. .	5.62	. .	. .	11	
137	Mansfield	78.5	58.8	19.7	88	4	44	25	68.6	. .	4.79	. .	. .	13	
139	Middleboro' . .	76.7	57.2	19.5	84	*i*	45	16	67.0	. .	3.38	. .	. .	6	*i*
140	Milton	75.7	54.1	21.6	88	5	41	25	64.9	63.6	3.11	. .	. .	10	*b*
141	Monson	77.4	55.7	21.7	87	4	44	16, 25	66.6	. .	4.61	. .	. .	9	
173	Nahant	72.9	60.2	12.7	83	4	51	25	66.6	. .	3.35	. .	. .	9	
146	Nantucket . . .	72.7	62.7	10.0	80	4	55	25	67.7	. .	2.81	. .	. .	10	
147	New Bedford (*a*)	74.2	60.8	13.3	81	7	50	25	67.5	67.2	3.82	. .	. .	9	*b*
148	" " (*b*)	75.5	59.8	15.7	82	4	50	25	67.6	. .	3.75	. .	. .	11	
149	Newburyport (*a*)	76.9	58.6	18.3	89	5	47	25	67.8	66.8	4.83	. .	. .	14	*b*
152	Northampton .	79.4	61.6	17.8	91	6	45	25	70.5	. .	5.86	. .	. .	14	
153	Plymouth . . .	. .	. .	. .	86	4	55	25	. .	69.1	3.01	. .	. .	8	*a b*
154	Princeton . . .	74.1	56.1	18.0	84	3	45	24	65.1	. .	5.90	. .	. .	12	
155	Provincetown .	75.9	61.8	14.1	84	5	54	25	68.8	. .	2.81	. .	. .	7	
158	Salem (*a*) . . .	. .	. .	. .	88	4	55	25	. .	67.1	. .	. .	. .	. .	*a b*
160	South Hingham	. .	56.8	. .	. .	. .	45	25	. .	. .	3.48	. .	. .	10	
161	Springfield . . .	77.7	62.6	15.1	88	4, 5	48	25	70.2	69.8	5.57	. .	. .	14	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	79.8	59.7	20.1	88	15	47	25	69.2	68.9	4.02	. .	. .	10	*b*
164	" (*b*) . .	75.6	59.2	16.4	88	5	47	25	67.4	. .	4.03	. .	. .	11	
165	" (*c*) . .	78.7	57.7	21.0	87	4	44	25	68.2	. .	3.86	. .	. .	11	
181	Wakefield . . .	76.2	56.9	19.3	88	4, 5	46	25	66.5	. .	4.21	. .	. .	8	
168	Wellesley . . .	78.6	58.4	20.2	92	1	47	16	68.5	. .	2.69	. .	. .	6	
169	Westboro' . . .	81.7	59.5	22.2	92	4	48	25	70.6	. .	3.53	. .	. .	14	*a*
170	Williamstown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	Rhode Island.														
201	Block Island . .	72.6	63.2	9.4	79	1	53	24	67.9	. .	2.09	. .	. .	11	
202	Bristol	75.3	62.0	13.3	81	1, 2	50	17	68.6	68.4	3.87	. .	. .	13	*b*
210	Kingston	75.9	59.1	16.8	84	4	45	25	67.5	. .	4.01	. .	. .	10	
204	Newport	. .	. .	. .	. .	. .	. .	. . .	. .	. .	. .	. .	. .	. .	
205	Olneyville . . .	78.2	63.3	14.9	87	4	52	25	70.8	. .	. .	. .	. .	. .	
207	Providence (*a*) .	79.0	63.3	15.7	90	2	52	25	71.2	69.7	2.61	. .	. .	13	*c*
208	“ (*b*) .	80.8	59.0	21.8	90	4	48	25	69.9	. .	2.39	. .	. .	14	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	77.2	57.2	20.0	89	4	46	24	67.2	. .	5.36	. .	. .	10	
222	Colchester . . .	76.7	60.3	16.4	84	6	48	24	68.5	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
237	Mansfield	75.0	58.0	17.0	84	4	45	24	66.5	66.0	4.26	. .	. .	8	*b*
226	Middletown . .	77.7	60.8	16.9	88	4	48	25	69.3	67.8	4.66	. .	. .	11	*b*
228	New Haven . .	76.6	61.6	15.0	85	1	47	24	69.1	. .	2.67	. .	. .	10	
229	New London . .	75.6	63.5	12.1	83	4	51	24	69.6	. .	2.43	. .	. .	11	
230	Shelton	76.5	59.5	17.0	86	1, 4	45	24, 25	68.0	. .	5.35	. .	. .	7	
231	Thompson . . .	72.3	62.5	9.8	83	4	47	25	67.4	65.8	. .	. .	. .	. .	*a b*
233	Voluntown . . .	. .	. .	. .	85	4	. .	. .	. .	. .	4.67	. .	. .	. .	
235	Waterbury . . .	77.3	60.9	16.4	89	4	44	25	69.1	. .	4.50	. .	. .	11	
	New York.														
251	Albany	79.1	62.0	17.1	91	2	50	25	70.6	. .	5.66	. .	. .	14	
252	Boyd's Corners .	. .	. .	. .	92	4	52	25	. .	70.7	4.70	. .	. .	15	*a b*
253	Carmel	79.7	61.0	18.7	91	4	43	24	70.4	. .	4.44	. .	. .	15	
254	New York (*a*) .	. .	. .	. .	91	4	52	24	. .	72.7	4.37	. .	. .	14	*e*
255	“ “ (*b*) .	78.9	65.7	13.2	89	1	51	24	72.3	. .	4.06	. .	. .	12	
258	Poughkeepsie . .	79.8	59.1	20.6	90	4	44	24	69 4	. .	5.65	. .	. .	10	
256	Setauket	76.4	64.4	12.2	85	4	53	24	70.4	69.9	4.27	. .	. .	9	*b*

STATIONS REPORTING PRECIPITATION ONLY.—AUGUST, 1890.

No.	STATION.	Total Precip.	Snowfall.	No.	STATION.	Total Precip.	Snowfall.
32	Belmont, N.H. . .	5.39	. .	159	Salem (*b*), Mass.	3.56	. .
35	Bristol, “ . . .	. .	. .	166	Waltham, “	3.66	. .
40	Lake Village, “ . .	4.99	. .	171	Winchester, “	3.56	. .
44	Mine Falls, “ . .	5.85	. .	203	Lonsdale, R. I.	3.98	. .
48	Pennichuck Station, “ . .	6.60	. .	206	Pawtucket, “	3.16	. .
53	Weir's Bridge, “ . .	5.60	. .	238	Birmingham Conn.	4.47	. .
55	Wolfboro', “ . .	4.54	. .	247	Falls Village, “	6.06	. .
75	Cornwall, Vt. . . .	6.00	. .	224	Hartford (*b*), “	4.05	. .
107	Boston (*b*), Mass. . . .	3.00	. .	225	Lake Konomoc, “	. .	. .
111	Chicopee, “ . . .	5.43	. .	249	Lebanon “	3.88	. .
112	Clinton, “ . . .	4.80	. .	240	New Britain, “	. .	. .
119	Fiskdale, “ . . .	5.71	. .	227	New Hartford, “	7.04	. .
130	Leominster, “ . . .	6.05	. .	241	Newington “	2.25	. .
138	Medford, “ . . .	3.64	. .	246	No. Woodstock, “	4.95	. .
142	Mt. Nonotuck, “ . . .	5.74	. .	248	So. Manchester, “	4.16	. .
143	Mystic Lake, “ . . .	3.72	. .	232	Uncasville, “	4.67	. .
144	Mystic Station, “ . . .	3.35	. .	234	Wallingford, “	3.84	. .
150	Newburyport (*b*), “ . . .	3.14	. .	245	W. Simsbury, “	5.23	. .
156	Randolph “ . . .	. .	. .	257	S. E. Reservoir, N. Y.	3.91	. .
179	Robert's Dam, “ . . .	4.43	. .				

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Minimum on 16th, 25th, 26th. *g*—Maximum on 2d, 3d, 4th, 5th. *h*—Maximum on 2d, 4th, 10th. *i*—Maximum on 4th, 5th, 10th.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	New Brunswick.														
1	St. John	62.0	51.5	10.5	73	2, 6	42	22	56.8	57.6	5.77	. .	. .	11	c
	Maine.														
2	Bar Harbor	66.1	52.2	13.9	76	6	38	25	59.2	. .	4.25	. .	. .	11	
3	Belfast	. .	. .	. .	76	6	42	25	. .	57.3	. .	. .	. .	. .	a c
14	Calais	65.9	49.0	16.8	75	6	32	25	57.6	. .	5.24	. .	. .	12	
4	Eastport	62.4	51.5	10.9	73	6	37	25	57.0	. .	4.86	. .	. .	11	
5	Fairfield	67.4	47.3	20.1	77	5, 6	30	25	57.3	. .	3.85	. .	. .	11	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill	64.5	50.5	14.0	75	2, 6	35	24, 25	57.5	. .	4.42	. .	. .	9	
8	Lewiston	67.1	49.7	17.4	76	6	31	25	58.4	58.1	5.13	. .	. .	14	b
9	Mayfield	. .	. .	. .	76	6	31	25	. .	53.6	5.85	. .	. .	13	a b
10	Orono	66.8	49.4	17.4	76	6	33	25	58.1	58.0	4.47	. .	. .	11	b
11	Petit Menan	. .	. .	. .	68	18	45	25, 28	. .	58.7	. .	. .	. .	. .	a b
12	Portland	66.1	53.3	12.8	79	5	37	25	59.7	. .	4.88	. .	. .	13	
15	West Jonesport	. .	. .	. .	74	2, 7	38	22, 25	. .	56.7	. .	. .	. .	9	a b
	New Hampshire.														
33	Berlin Falls	66.1	41.3	24.8	77	*f*	23	25	53.7	. .	. .	. .	. .	. .	f
34	Berlin Mills	66.9	42.0	24.9	79	*g*	20	25	54.4	. .	2.96	. .	. .	9	g
37	Concord	68.8	52.3	16.4	80	5	31	25	60.5	. .	4.64	. .	. .	15	
39	Hanover (*a*)	66.6	50.0	16.6	78	5	30	25	58.3	57.3	3.99	. .	. .	15	b
58	" (*b*)	70.5	49.0	21.6	85	7	28	25	59.7	57.6	3.91	. .	. .	16	d
59	Littleton	. .	. .	. .	78	13	32	25	. .	56.7	4.03	. .	. .	13	c
42	Manchester (*b*)	70.0	53.1	16.9	81	6	34	25	61.6	60.9	5.09	. .	. .	14	b
43	" (*c*)	69.7	52.1	17.6	81	5	33	25	60.9	. .	4.71	. .	. .	15	
45	Nashua	71.9	52.1	19.8	82	5	30	25	62.0	60.9	6.01	. .	. .	12	c
57	Newton	70.0	51.0	19.0	82	5	30	25	60.5	. .	3.14	. .	. .	6	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway	68.5	47.1	21.4	80	5	29	25	57.8	. .	5.24	. .	. .	10	
49	Plymouth	68.2	48.0	20.2	84	7	26	25	58.1	. .	5.63	. .	. .	15	
51	Stratford	71.1	47.8	23.3	85	7	25	25	59.4	. .	3.18	. .	. .	7	
52	Walpole	67.1	49.2	17.9	80	5	30	25	58.1	. .	5.31	. .	. .	12	
54	West Milan	66.0	44.2	21.8	80	8	25	25	55.1	. .	3.21	. .	. .	8	
	Vermont.														
71	Brattleboro' (*a*)	70.3	51.4	18.9	81	5	30	25	60.2	59.3	6.18	. .	. .	. .	c
72	" (*b*)	68.7	53.6	15.1	79	5	32	25	61.2	58.8	. .	. .	. .	. .	c
73	Burlington	. .	. .	. .	82	8	36	29	. .	. .	3.84	. .	. .	15	
74	Chelsea	. .	. .	. .	72	5, 8	30	25	. .	58.2	4.54	. .	. .	17	a b
88	Hartland	67.8	50.3	17.5	85	8	32	25	54.0	. .	4.44	. .	. .	16	h
77	Jacksonville	69.9	46.4	23.5	80	2	27	25	58.2	55.3	6.46	. .	. .	16	c
78	Lunenburgh	69.2	52.4	17.8	82	8	30	26	60.8	60.0	3.92	. .	. .	16	b
79	Manchester	. .	. .	. .	80	5, 8	34	25	. .	59.0	6.54	. .	. .	15	a b
82	Northfield	65.3	46.7	18.7	79	8	27	25	56.0	. .	2.95	. .	. .	18	
83	Strafford	. .	. .	. .	78	5	34	25	. .	57.2	3.95	. .	. .	10	a b
85	Vernon	. .	. .	. .	78	7, 13	34	25	. .	60.7	6.75	. .	. .	7	a c
89	Weathersfield Ct.	65.9	49.0	16.9	78	4	30	24	57.4	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	78	5	30	25	. .	59.0	6.08	. .	. .	. .	*a b*
102	" (*b*) . .	69.7	50.3	19.4	78	2, 7	30	25	60.0	59.4	5.28	. .	. .	11	*b*
177	" (*c*) . .	71.8	49.1	22.7	80	7	28	25	60.4	59.7	5.85	. .	. .	13	*e*
180	Andover	70.9	51.8	19.1	82	5	34	25	61.4	. .	4.12	. .	. .	10	
104	Blue Hill (sum't)	67.9	52.3	15.6	80	5	35	25	60.1	59.7	7.49	. .	. .	13	*c*
105	" " (base)	69.7	53.8	15.9	81	5	34	25	61.7	. .	7.55	. .	. .	13	
174	" " (valley)	71.1	51.5	19.6	83	5	31	25	61.3	. .	6.80	. .	. .	13	
106	Boston (*a*) . . .	69.6	56.2	13.4	83	5	39	25	62 9	. .	5.04	. .	. .	12	
175	Brewster	71.6	57.4	14.2	83	6	41	29	64.5	64.6	4.53	. .	. .	9	*d*
108	Cambridge (*a*) .	68.4	54.4	13.8	80	5	37	25	61.4	. .	3.70	. .	. .	9	
109	" (*b*) .	70.4	53.8	16.6	82	5	37	25	62 1	. .	4.05	. .	. .	11	
110	Chestnut Hill .	72.7	53.8	18.9	84	5	36	25	63.2	. .	4.89	. .	. .	12	
182	Concord	70.4	51.1	19.3	82	5	32	24	60.8	. .	4.07	. .	. .	16	
114	Cotuit	69.5	57.1	12.3	78	13	39	25	63.3	. .	6.44	. .	. .	9	
116	Deerfield	. .	. .	. .	80	2, 7	34	25	. .	59.5	. .	. .	. .	. .	*a b*
117	Dudley	72.2	51.6	20.7	81	5	34	25	61.9	. .	5.33	. .	. .	13	
118	Fall River . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	Fitchburg (*a*) .	. .	. .	. .	78	5	39	25	. .	59.6	5.96	. .	. .	15	*a b*
121	" (*b*) .	68.8	52.3	16.4	78	5	34	25	60.6	. .	6.38	. .	. .	13	
122	Framingham . .	72.5	51.8	20.7	82	5	30	30	62.2	. .	6.51	. .	. .	13	
123	Gilbertville . . .	70.6	49.7	20.9	81	13	32	30	60.2	. .	6.76	. .	. .	15	
124	Groton (*a*) . .	69.9	53.6	16.3	84	13	33	25	61.8	. .	6.50	. .	. .	15	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendall Green .	69.7	55.7	14.0	86	5	32	25	62.7	. .	5.73	. .	. .	9	
127	Lake Cochituate	74.3	47.4	26.8	86	6	24	25	60.9	. .	6.47	. .	. .	12	
128	Lawrence . . .	71.1	52.4	18.7	81	5	34	25	61.8	. .	4.13	. .	. .	14	
129	Leicester	67.3	51.1	16.2	79	5	35	25	59.2	59.9	5.86	. .	. .	12	*b*
131	Long Plain . . .	69.6	59.1	10.5	80	6	34	25	64.4	. .	7.83	. .	. .	13	*a*
133	Lowell (*b*) . .	69.7	53.6	16.1	80	13	33	25	61.6	. .	4.46	. .	. .	11	
136	" (*c*) . . .	70.0	52.2	17.8	79	5	32	25	61.1	. .	. .	. .	. .	. .	
176	" (*d*) . . .	73.5	53.4	20.1	86	5	34	26	63 4	. .	. .	. .	. .	10	
134	Ludlow	68.7	47.3	21.4	78	2, 7	29	25	58.0	. .	7.03	. .	. .	16	
135	Lynn	66.0	53.0	13.0	80	5	35	25	59.5	. .	5.68	. .	. .	11	
137	Mansfield	70.1	51.8	18.3	83	5	30	30	61.0	. .	4.77	. .	. .	11	
139	Middleboro' . .	71.3	51.2	20.1	82	6	29	25	61.2	. .	7.32	. .	. .	11	
140	Milton	68.5	48.0	20.5	83	5	29	25	58.2	. .	7.01	. .	. .	11	
141	Monson	70.7	48.6	22.1	80	6	28	25	59.6	. .	3.54	. .	. .	15	
173	Nahant	67.7	55.4	12.3	80	5	39	25	61.6	. .	6.11	. .	. .	10	
146	Nantucket . . .	68.3	59.3	9.0	77	15	48	30	63.8	. .	8.33	. .	. .	13	
147	New Bedford (*a*)	69.6	55.6	14.0	78	6	37	25	62.6	62.2	7.55	. .	. .	15	*b*
148	" " (*b*)	71.0	54.5	16.4	79	6	35	30	62.8	. .	7.73	. .	. .	13	
149	Newburyport (*a*)	70.1	53.8	16.3	83	5	37	25	62.0	60.9	3.39	. .	. .	13	*b*
152	Northampton .	72.4	53.9	18.5	85	5	36	25	63.2	. .	6.75	. .	. .	11	
153	Plymouth . . .	. .	. .	. .	82	5	44	25	. .	63.4	6.20	. .	. .	15	*a b*
154	Princeton . . .	68.2	51.2	17.0	77	5	34	25	59.7	. .	5.57	. .	. .	15	
155	Provincetown .	70.5	56.8	13.7	78	2	38	30	63.6	. .	7.62	. .	. .	12	
158	Salem (*a*) . . .	. .	. .	. .	78	13	43	25	. .	60.8	. .	. .	. .	. .	*a c*
160	South Hingham	. .	46.8	. .	. .	. .	28	25	. .	. .	5.75	. .	. .	14	*i*
161	Springfield . . .	69.9	53.9	16.0	80	5	34	25	61.9	62.2	11.12	. .	. .	14	*b*
162	Swampscott . .	67.0	53.6	13.3	75	13	37	25	60.3	60.2	4.64	. .	. .	11	*b j*
163	Taunton (*a*) . .	73.3	54.1	19.2	85	2	35	25, 30	63.7	62.3	5.16	. .	. .	11	*b*
164	" (*b*) . .	72.3	53.4	18.9	85	6	35	25, 30	62.9	. .	5.35	. .	. .	12	
165	" (*c*) . .	72.8	52.5	20.3	83	6	29	25	62.6	. .	5.41	. .	. .	14	
181	Wakefield . . .	69.7	51.8	17.9	81	6	30	25	60.7	. .	4.06	. .	. .	9	
168	Wellesley . . .	71.4	53.5	17.9	81	11	31	25	62.4	. .	7.62	. .	. .	10	
169	Westboro' . . .	74.3	54.2	20.1	86	5	32	25	64.2	. .	3.92	. .	. .	15	*a*
170	Williamstown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Rhode Island.														
201	Block Island . .	68.2	59.2	9.0	74	6, 13	48	25	63.7	. .	2.69	. .	. .	13	
202	Bristol	70.2	58.0	12.2	80	6	38	25	64.1	63.6	4.00	. .	. .	13	*b*
210	Kingston	71.6	54.1	17.5	81	5, 6	36	25	62.8	. .	5.48	. .	. .	12	
204	Newport	71.9	58.2	13.7	80	7	42	24	65.0	. .	. .	. .	. .	. .	
205	Olneyville . . .	72.0	57.8	14.2	82	5	40	25	64.9	. .	. .	. .	. .	. .	
207	Providence (*a*) .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
208	" (*b*) .	73.8	52.4	21.3	83	2, 5	34	25, 30	63.1	. .	4.24	. .	. .	12	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	69.3	50.4	18.9	83	5	30	25	59.8	. .	5.54	. .	. .	11	
222	Colchester . . .	72.1	52.5	19.6	80	6	30	25	62.3	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	71.5	54.0	17.5	82	5	34	25	62.8	. .	3.78	. .	. .	11	
237	Mansfield	69.8	51.4	17.4	80	6	33	25	60.6	59.5	7.19	. .	. .	12	*b*
226	Middletown . .	71.2	53.6	17.6	81	6	35	25	62.4	61.1	5.97	. .	. .	11	*b*
228	New Haven . .	71.2	54.5	16.7	80	3	36	25	62.8	. .	5.38	. .	. .	13	
229	New London . .	70.4	58.0	12.4	78	3, 5	40	25	64.2	. .	5.51	. .	. .	15	
230	Shelton	70.1	51.7	18.4	80	4	35	24	60.9	. .	6.24	. .	. .	11	
231	Thompson . . .	67.1	55.6	11.5	78	5	36	25	61.4	59.8	. .	. .	. .	. .	*a b*
233	Voluntown . . .	72.6	52.3	20.3	83	6	31	25	62.4	61.2	4.91	. .	. .	9	*b*
235	Waterbury . . .	71.6	51.9	19.7	82	2, 3	32	25, 29	61.8	. .	4.98	. .	. .	13	
	New York.														
251	Albany	69.9	54.1	15.7	82	4	36	25	62.0	. .	8.91	. .	. .	16	
252	Boyd's Corners .	. .	. .	. .	87	5	44	25	. .	61.1	6.86	. .	. .	11	*a b*
253	Carmel	71.6	51.2	20.4	85	5	33	25	61.4	. .	7.80	. .	. .	10	
254	New York (*a*) .	. .	. .	. .	88	5	45	25	. .	67.1	4.63	. .	. .	10	*e*
255	" " (*b*) .	74.8	59.6	15.2	86	5	46	28	67.2	. .	7.21	. .	. .	11	
258	Poughkeepsie . .	72.4	49.2	23.2	84	4	30	25	60.8	. .	4.52	. .	. .	10	
256	Setauket	71.5	57.8	13.7	81	5	43	30	64.6	64.0	6.53	. .	. .	10	*b*

STATIONS REPORTING PRECIPITATION ONLY.—SEPTEMBER, 1890.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.67	. .	159	Salem (*b*), Mass.	4.42	. .
40	Lake Village, " . .	6.23	. .	166	Waltham, "	4.91	. .
44	Mine Falls, " . .	7.01	. .	171	Winchester, "	3.50	. .
48	Pennichuck Station, " . .	6.04	. .	203	Lonsdale, R. I.	5.01	. .
53	Weir's Bridge, " . .	6.91	. .	206	Pawtucket, "	4.98	. .
55	Wolfboro', " . .	5.98	. .	238	Birmingham Conn.	5.11	. .
75	Cornwall, Vt. . . .	2.96	. .	247	Falls Village, "	6.00	. .
107	Boston (*b*), Mass. . . .	6.12	. .	224	Hartford (*b*), "	3.83	. .
111	Chicopee, " . . .	11.14	. .	225	Lake Konomoc, "	6.20	. .
112	Clinton, " . . .	4.75	. .	249	Lebanon "	5.66	. .
119	Fiskdale, " . . .	4.85	. .	240	New Britain, "	. .	. .
130	Leominster, " . . .	6.34	. .	227	New Hartford, "	8.59	. .
138	Medford, " . . .	3.49	. .	241	Newington "	. .	. .
142	Mt. Nonotuck, " . . .	6.21	. .	246	No. Woodstock, "	6.10	. .
143	Mystic Lake, " . . .	3.82	. .	248	So. Manchester, "	4.99	. .
144	Mystic Station, " . . .	3.85	. .	232	Uncasville, "	6.53	. .
150	Newburyport (*b*), " . . .	3.50	. .	234	Wallingford, "	5.66	. .
156	Randolph " . . .	7.45	. .	245	W. Simsbury, "	5.72	. .
179	Robert's Dam, " . . .	5.78	. .	257	S. E. Reservoir, N. Y.	7.80	. .

NOTES.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Maximum on 5th, 7th, 8th. *g*—Maximum on 2d, 3d, 5th. *h*—Mean for 25 days *i*—Mean for 21 days. *j*—Temperature data, 10th–30th.

Number.	STATION.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									MEAN.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	50.2	39.6	10.6	69	2	29	23	44.9	44.2	3.19	. .	. .	11	*c*
	Maine.														
2	Bar Harbor . .	55.0	41.1	13.9	75	2	30	14	48.0	. .	3.12	. .	. .	13	
3	Belfast	. .	. .	. .	69	2	36	*f*	. .	46.3	. .	. .	. .	. .	*a c f*
14	Calais	54.0	37.3	16.7	76	3	27	23	45.6	. .	2.27	. .	. .	9	
4	Eastport	51.9	41.2	10.7	76	2	35	22	46.6	. .	2.28	. .	. .	14	
5	Fairfield	54.7	35.6	19.1	75	2	20	23	45.2	. .	3.45	. .	. .	12	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	53.1	37.7	15.4	71	1	26	23	45.4	. .	4.08	. .	. .	13	
8	Lewiston	54.3	36.6	17.7	77	2	23	23	45.5	45.4	5.47	. .	. .	11	*b*
9	Mayfield	. .	. .	. .	76	2	21	23	. .	41.4	3.45	3	. .	11	*a b*
10	Orono	55.1	36.8	18.3	78	2	24	23	46.0	45.5	3.36	. .	. .	10	*b*
11	Petit Menan . .	. .	. .	. .	62	3	37	7	. .	47.2	. .	. .	. .	. .	*a b*
12	Portland	53.9	41.5	12.4	75	2	32	23	47.7	. .	6.82	. .	. .	14	
15	West Jonesport	. .	. .	. .	66	5	30	*g*	. .	47.1	. .	. .	. .	8	*a b g*
	New Hampshire.														
33	Berlin Falls . .	52.0	30.2	21.8	75	2	16	22, 23	41.1	. .	. .	. .	. .	. .	
34	Berlin Mills . .	53.0	31.1	21.9	76	3	18	22	42.0	. .	3.59	3	. .	11	
37	Concord	55.3	39.6	15.6	75	1	29	22, 23	47.4	. .	7.76	. .	. .	12	
39	Hanover (*a*) . .	53.4	37.6	15.8	70	1	23	23	45.5	44.6	4.75	. .	. .	13	*b*
58	" (*b*)	56.8	35.9	20.9	79	1	22	22	46.4	44.2	5.14	. .	. .	15	*d*
59	Littleton	. .	. .	. .	73	1	22	*h*	. .	43.8	4.62	T	. .	12	*c h*
42	Manchester (*b*)	55.6	40.4	15.2	77	1, 2	30	23	48.0	47.4	6.23	. .	. .	13	*b*
43	" (*c*)	55.8	39.9	15.9	78	2	28	22	47.8	. .	6.19	. .	. .	15	
45	Nashua	56.4	38.5	17.9	78	2	27	23	47.4	47.6	7.39	. .	. .	14	*c*
57	Newton	55.1	38.0	17.0	76	2	26	23	46.6	. .	7.99	. .	. .	14	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	55.3	35.8	19.5	76	2	24	22, 23	45.6	. .	5.60	. .	. .	8	
49	Plymouth . . .	53.9	34.9	19.0	74	2	21	22	44.4	. .	4.93	T	. .	12	
51	Stratford	54.9	36.1	18.8	82	2	21	23	45.5	. .	3.19	. .	. .	10	
52	Walpole	53.5	35.8	17.7	72	1	25	22	44.6	. .	5.83	1	. .	13	
54	West Milan . .	52.3	32.4	19.9	75	2	12	23	42.4	. .	3.68	T	. .	13	
	Vermont.														
71	Brattleboro' (*a*)	57.6	38.6	19.0	76	1	26	22	48.1	46.0	7.64	. .	. .	. .	*c*
72	" (*b*)	56.1	40.6	15.5	74	1	28	22	48.4	46.9	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	74	2	31	22	. .	. .	2.02	. .	. .	10	*a c*
74	Chelsea	. .	. .	. .	68	2	27	22	. .	44.4	4.09	T	. .	15	*a b*
88	Hartland . . .	55.4	37.9	10.8	78	1	24	13	46.3	. .	5.61	T	. .	17	
77	Jacksonville . .	55.3	35.3	19.9	80	1	22	22	45.3	42.4	9.30	1	. .	15	*c*
78	Lunenburgh . .	54.1	42.0	12.1	76	2	30	22	48.0	49.0	2.72	T	. .	14	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	52.2	35.8	16.4	74	2	21	22	44.0	. .	3.49	. .	. .	15	
83	Strafford	. .	. .	. .	76	4	32	21, 22	. .	45.6	4.80	1	. .	10	*a b*
85	Vernon	. .	. .	. .	74	5	30	*i*	. .	47.6	6.66	. .	. .	7	*a c i*
89	Weathersfield Ct.	53.3	37.2	16.1	70	1	28	21, 22	45.2	. .	. .	T	. .	6	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	71	1	26	22	. .	47.9	6.98	. .	. .	. .	*a b*
102	" (*b*) . .	56.8	39.3	16.5	76	2	26	22	48.0	47.4	6.89	. .	. .	15	*b*
177	" (*c*) . .	58.1	38.3	19.8	78	1	26	22	48.2	48.5	7.13	T	. .	14	*e*
180	Andover . . .	58.2	40.7	17.5	76	2	30	22	49.4	48.3	8.90	. .	. .	13	*b*
104	Blue Hill (sum't)	53.6	41.4	12.2	73	2	32	22	47.5	47.2	7.99	. .	. .	17	*b*
105	" " (base)	55.4	41.4	14.0	72	2	31	22	48.4	. .	8.50	. .	. .	17	
174	" " (valley)	56.5	39.0	17.4	75	2	28	22	47.7	. .	8.06	. .	. .	17	
106	Boston (*a*) . . .	56.4	45.6	10.8	77	2	36	22	51.0	. .	5.63	. .	. .	16	
175	Brewster	56.4	45.9	10.5	73	3	35	28	51.2	52.3	9.07	. .	. .	14	*d*
108	Cambridge (*a*) .	54.8	42.2	12.6	70	2	32	22	48.5	. .	8.09	. .	. .	12	
109	" (*b*) .	56.1	41.0	15.2	73	2	32	21	48.6	. .	9.31	. .	. .	14	
110	Chestnut Hill .	57.4	42.0	15.4	78	2	31	23	44.7	. .	8.78	. .	. .	12	
182	Concord	56.1	39.4	16.7	75	2	28	31	47.8	. .	8.05	. .	. .	16	
114	Cotuit	56.4	44.3	12.1	68	*j*	34	14, 22	50.4	. .	10.14	. .	. .	16	*j*
116	Deerfield	. .	. .	. .	75	1	31	13	. .	48.5	. .	. .	. .	. .	*a b*
117	Dudley	56.9	40.5	16.4	79	1	32	*k*	48.7	. .	5.19	. .	. .	10	*k*
118	Fall River . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	Fitchburg (*a*)	. .	. .	. .	72	2	33	23, 30	. .	46.7	8.55	. .	. .	15	*a b*
121	" (*b*)	54.8	39.4	15.4	74	2	27	22	47.1	. .	9.26	. .	. .	12	
122	Framingham . .	57.3	39.8	17.5	74	2	28	22, 23	48.5	. .	10.26	. .	. .	16	
123	Gilbertville . . .	55.6	36.9	18.7	70	*j*	24	22	46.2	. .	7.94	. .	. .	16	*j*
124	Groton (*a*) . .	56.1	40.6	15.5	74	2	27	22	48.3	. .	9.63	. .	. .	12	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	8.48	. .	. .	12	
178	Kendall Green .	55.2	44.1	11.1	72	2	29	22	49.6	. .	9.64	. .	. .	9	
127	Lake Cochituate	59.8	33.4	26.4	78	1, 2	21	22	46.6	. .	10.11	. .	. .	14	
128	Lawrence . . .	56.5	40.4	16.0	76	2, 4	30	22	48.5	. .	8.68	. .	. .	16	
129	Leicester	52.7	40.7	12.0	72	1	32	28, 31	46.7	47.0	7.92	. .	. .	15	*b*
131	Long Plain . . .	55.3	46.0	9.3	72	1	31	21	50.6	. .	10.66	. .	. .	19	*a*
133	Lowell (*b*) . .	55.5	40.6	14.9	75	1	29	22	48.0	. .	7.71	. .	. .	15	
136	" (*c*) . . .	55.5	39.1	16.5	75	2	27	22	47.3	. .	. .	. .	. .	16	
176	" (*d*) . . .	58.4	41.8	16.6	84	2	31	22	50.1	. .	. .	. .	. .	8	
134	Ludlow	55.3	37.0	18.3	75	1	26	13	46.2	. .	6.22	. .	. .	18	
135	Lynn	53.9	40.7	13.2	68	2	32	21, 22	47.8	. .	7.36	. .	. .	13	
183	Mansfield	. .	. .	. .	77	1	31	22	. .	49.0	7.59	. .	. .	15	*a b*
139	Middleboro' . .	57.4	39.1	18.3	74	1	25	22, 23	48.2	. .	10.55	. .	. .	12	
140	Milton	55.9	36.5	19.4	73	3	25	22	46.2	46.4	8.22	. .	. .	11	*b*
141	Monson	57.8	37.2	20.6	75	1	22	22	47.5	. .	5.81	. .	. .	14	
173	Nahant	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
146	Nantucket . . .	56.1	48.9	7.2	70	3	41	28	53.1	. .	6.72	. .	. .	17	
147	New Bedford (*a*)	56.4	43.4	13.0	70	1, 5	33	22	49.9	49.7	10.09	. .	. .	10	*b*
148	" " (*b*)	56.9	43.4	13.5	72	1	32	22	50.2	. .	9.73	. .	. .	17	
149	Newburyport (*a*)	56.7	42.2	14.5	76	2	33	23	49.4	48.5	7.20	. .	. .	15	*b*
152	Northampton .	56.0	42.5	13.5	74	1	32	22	49.2	. .	7.91	. .	. .	9	
153	Plymouth . . .	. .	. .	. .	71	2	37	28	. .	51.3	9.38	. .	. .	15	*a b*
154	Princeton . . .	54.0	39.5	14.5	73	1	30	22, 29	46.8	. .	10.04	. .	. .	10	
155	Provincetown .	56.3	47.1	9.2	70	2	38	14, 31	50.7	. .	6.78	. .	. .	15	
158	Salem (*a*) . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
160	South Hingham	. .	39.8	. .	. .	. .	25	23	. .	. .	10.81	. .	. .	14	
161	Springfield . . .	56.7	42.8	13.9	73	1, 4	31	22	49.7	50.4	6.70	. .	. .	16	*b*
162	Swampscott . .	56.6	44.1	12.5	70	2	33	22, 23	50.4	50.3	6.17	. .	. .	14	*b*
163	Taunton (*a*) . .	58.9	42.4	16.5	81	1	30	23	50.6	49.7	9.23	. .	. .	14	*b*
164	" (*b*) . .	58.6	41.0	17.6	75	2	30	*l*	49.8	. .	9.51	. .	. .	17	*l*
165	" (*c*) . .	58.1	38.1	20.0	78	1	26	22, 23	48.1	. .	10.44	. .	. .	14	
181	Wakefield . . .	56.0	39.0	17.0	76	2	27	22	47.5	. .	8.58	. .	. .	12	
168	Wellesley . . .	56.2	39.9	16.3	70	7	26	22	48.0	. .	9.95	. .	. .	8	
169	Westboro' . . .	58.1	41.2	16.9	77	2	27	22	49.6	. .	10.85	. .	. .	17	*a*
170	Williamstown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Rhode Island.														
201	Block Island . .	57.3	49.5	7.8	70	5	41	28	53.4	. .	4.57	. .	. .	17	
202	Bristol	56.7	45.8	10.9	70	4	34	22	51.2	50.9	8.20	. .	. .	19	*b*
210	Kingston	57.2	42.2	15.0	72	4	32	22	49.7	. .	10.04	. .	. .	15	
204	Newport	58.3	46.2	12.1	74	.5	35	21	52.2	. .	. .	. .	. .	. .	
205	Olneyville . . .	58.1	46.2	11.9	76	1	35	23	52.2	. .	. .	. .	. .	. .	
207	Providence (*a*) .	56.7	45.0	11.7	74	1	35	23	50.8	50.8	9.19	. .	. .	15	*c*
208	" (*b*) .	58.3	40.1	18.2	80	1	29	22, 23	49.2	. .	8.86	. .	. .	15	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	56.2	40.5	15.7	71	8	28	31	48.4	. .	7.88	. .	. .	13	
222	Colchester . . .	57.2	41.7	15.5	75	1	29	22	49.4	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	56.7	42.0	14.6	72	1	31	22	49.4	. .	7.02	. .	. .	14	
237	Mansfield	55.3	40.5	14.8	74	1	32	22, 31	47.9	47.6	5.25	. .	. .	17	*b*
226	Middletown . .	57.6	42.5	15.0	73	1	30	22	50.0	49.1	7.52	. .	. .	16	*b*
228	New Haven . .	58.4	44.2	14.2	73	1	33	22	51.3	. .	7.63	. .	. .	18	
229	New London . .	57.9	46.3	11.6	74	4	36	22	52.1	. .	6.43	. .	. .	20	
230	Shelton	56.3	40.5	15.8	72	4	30	30, 31	48.4	. .	8.69	. .	. .	11	
231	Thompson . . .	53.4	43.2	10.2	70	62, 3	31	22	48.3	47.3	. .	. .	. .	. .	*a b*
233	Voluntown . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	8.47	. .	. .	12	*b*
235	Waterbury . . .	56.9	42.4	14.5	75	1	28	13, 31	49.6	. .	6.89	. .	. .	11	
	New York.														
251	Albany	57.2	44.1	13.1	76	1	34	22	50.6	. .	5.76	. .	. .	17	
252	Boyd's Corners .	. .	. .	. .	77	1	33	31	. .	52.0	7.68	. .	. .	15	*a b*
253	Carmel	59.6	41.6	18.0	77	1	30	22	50.6	. .	6.76	. .	. .	14	
254	New York (*a*) .	. .	. .	. .	75	4	37	31	. .	54.5	6.56	. .	. .	13	*e*
255	" " (*b*) .	61.7	49.3	12.4	74	4	38	31	55.5	. .	6.46	. .	. .	15	
258	Poughkeepsie . .	58.5	40.3	18.2	76	1	27	31	49.4	. .	4.30	. .	. .	14	
256	Setauket	58.5	48.5	10.0	72	4	38	31	53.5	52.8	10.20	. .	. .	16	

STATIONS REPORTING PRECIPITATION ONLY.—OCTOBER, 1890.

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N. H. . .	6.52	. .	159	Salem (*b*), Mass.	7.35	. .
40	Lake Village, " . .	6.16	. .	166	Waltham, "	10.48	. .
44	Mine Falls, " . .	8.10	. .	171	Winchester, "	8.39	. .
48	Pennichuck Station, " . .	7.29	. .	203	Lonsdale, R. I.	10.55	. .
53	Weir's Bridge, " . .	4.32	. .	206	Pawtucket, "	9.18	. .
55	Wolfboro', " . .	7.20	. .	238	Birmingham, Conn.	7.17	. .
75	Cornwall, Vt. . . .	2.03	. .	247	Falls Village, "	5.40	. .
107	Boston (*b*), Mass. . . .	7.92	. .	224	Hartford (*b*), "	7.57	. .
111	Chicopee, " . . .	6.99	. .	225	Lake Konomoc, "	6.72	. .
112	Clinton, " . . .	9.05	. .	249	Lebanon "	7.11	. .
119	Fiskdale, " . . .	7.40	. .	240	New Britain, "	. .	. .
130	Leominster, " . . .	8.83	. .	227	New Hartford, "	7.45	. .
138	Medford, " . . .	8.92	. .	241	Newington "	. .	. .
142	Mt. Nonotuck, " . . .	6.91	. .	246	No. Woodstock, "	6.34	. .
143	Mystic Lake, " . . .	9.29	. .	248	So. Manchester, "	6.53	. .
144	Mystic Station, " . . .	9.00	. .	232	Uncasville, "	7.80	. .
150	Newburyport (*b*), " . . .	7.63	. .	234	Wallingford, "	7.21	. .
156	Randolph, " . . .	8.83	. .	245	W. Simsbury, "	6.49	. .
179	Robert's Dam, " . . .	8.89	. .	257	S. E. Reservoir, N. Y.	6.35	. .

NOTES.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Maximum on 21st, 22nd, 23rd, 29th, 31st. *g*—Minimum on 10th, 14th, 21st, 23rd. *h*—Minimum on 22nd, 26th, 30th. *i*—Minimum on 21st, 22nd, 23rd. *j*—Maximum on 1st, 2nd, 3rd, 4th. *k*—Minimum on 22nd, 23rd, 27th. *l*—Minimum on 13th, 14th, 23rd.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	40.8	29.6	11.2	53	8	16	24	35.2	35.7	3.50	4	0	14	*c*
	Maine.														
2	Bar Harbor . .	44.2	30.9	13.3	56	8	14	29	37.6	. .	2.59	T	0	10	
3	Belfast	. .	. .	. .	56	8	18	24, 28	. .	35.1	. .	T	. .	. .	*a c*
14	Calais	43.4	29.0	14.4	61	8	10	24	36.2	. .	2.27	5	. .	11	
4	Eastport	41.6	30.7	10.9	55	8	16	29	36.1	. .	2.84	. .	. .	14	
5	Fairfield'	42.0	26.0	16.0	55	8	10	29	34.0	. .	2.06	. .	6	11	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	39.3	25.0	14.3	54	8	9	28	32.2	. .	2.26	T	0	7	
8	Lewiston	41.0	24.6	16.4	55	6	10	28	32.8	32.9	1.89	T	0	11	*e*
9	Mayfield	. .	. .	. .	50	6	6	28	. .	27.3	2.01	6	1	11	*a b*
10	Orono	41.2	26.8	14.4	56	6	12	24	34.0	34.7	2.67	. .	0	14	*b*
11	Petit Menan . .	. .	. .	. .	55	8	19	28	. .	38.4	. .	. .	. .	. .	*a b*
12	Portland	43.5	30.1	13.4	60	8	13	28	36.8	. .	2.31	. .	. .	6	
15	West Jonesport	. .	. .	. .	52	6, 25	18	28	. .	35.2	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	38.3	18.6	19.7	54	6, 8	2	28	28.5	. .	. .	. .	. .	. .	
34	Berlin Mills . .	39 3	19.7	19.6	55	7	2	28	29.5	. .	3.25	7	. .	10	
37	Concord	43.7	27.4	16.3	64	8	8	24	35.6	. .	1.49	. .	0	8	
39	Hanover (*a*) . .	40.4	26.0	14.4	53	9	8	24	33.2	32.6	1.71	T	. .	7	*b*
58	" (*b*)	43.9	24.5	19.4	64	6	8	24	34.2	32.9	1.86	T	. .	8	*d*
59	Littleton	36.8	26.3	10.5	55	7	8	29	31.2	. .	2.83	3	0	11	
42	Manchester (*b*)	44.6	28.6	16.0	58	8	8	24	36.6	37.0	1.39	1	0	8	*b*
43	" (*c*)	45.0	28.3	16.7	63	6	11	24	36.6	. .	1.35	. .	0	9	
45	Nashua	45.9	27.3	18.6	60	6, 8	8	24	36.6	37.6	1.30	2	0	7	*c*
57	Newton	45.9	27.2	18.7	62	8	9	28	36.6	. .	1.40	. .	0	4	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	42.2	22.5	19.7	58	8	10	28	32.4	. .	1.72	T	. .	4	
49	Plymouth . . .	40.1	21.7	18.4	54	6	8	24	30.9	. .	2.05	T	0	6	
51	Stratford	39.4	24.7	14.7	61	7	8	28	32.0	. .	3.30	4	1	10	
52	Walpole	43.3	22.9	20.4	65	6	9	25	33.1	. .	0.45	T	. .	5	
54	West Milan . .	39.9	20.0	19.0	59	8	4	29	30.4	. .	3.66	3	. .	10	
	Vermont.														
71	Brattleboro' (*a*)	45.5	26.7	18.8	60	6	10	24	36.0	35.4	1.56	1	. .	. .	*c*
72	" (*b*)	45.3	29.3	16.0	63	6	14	24	39.8	37.3	. .	. .	. .	. .	*c*
73	Burlington . . .	. .	. .	. .	59	6	15	28	. .	. .	2.31	T	0	10	
74	Chelsea	. .	. .	. .	62	6	10	24	. .	31.9	2.25	3	. .	11	*a b*
88	Hartland . . .	44.0	26.2	17.7	60	6	7	24	35.1	. .	2.09	. .	0	8	
77	Jacksonville . .	43.2	22.5	20.7	62	6	6	24, 28	32.8	31.8	2.50	3	0	15	*c*
78	Lunenburgh . .	40.4	29.2	21.2	60	7	12	27	34.8	35.2	2.46	4	1	9	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	39.8	23.5	16.2	58	6	9	24	31.6	. .	2.28	. .	. .	12	
87	Saxton's River .	45.0	22.4	12.6	60	6	4	23	33.7	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	54	6, 8	10	24, 28	. .	34.6	2.00	2	T	5	*a b*
85	Vernon	. .	. .	. .	64	8	8	24	. .	36.1	1.96	. .	. .	4	*a c*
89	Weathersfield Ct.	41.6	24.4	17.2	56	9	8	30	33.0	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	58	7	11	28	. .	38.0	1.34	. .	. .	. .	*a b*
102	“ (*b*) . .	46.0	27.5	18.5	60	6	13	28	36.8	36.2	1.24	T	. .	5	*b*
177	“ (*c*) . .	47.3	26.6	20.7	62	8	12	28	37.2	38.0	1.32	1	. .	7	*e*
180	Andover	48.5	29.4	19.1	70	1	11	28	38.9	37.1	1.50	3	. .	5	*b*
104	Blue Hill (sum't)	46.4	30.0	16.4	63	8	11	28	38.2	38.3	1.11	T	0	5	*b*
105	“ “ (base)	48.2	30.7	17.5	66	8	12	28	39.4	. .	1.14	. .	0	5	
174	“ “ (valley)	49.3	28.8	20.5	67	8	12	24	39.5	. .	1.11	. .	0	5	
106	Boston (*a*) . . .	49.1	34.5	14.6	64	8	15	28	41.8	. .	0.97	. .	. .	6	
175	Brewster	50.5	35.2	15.3	65	8	20	28	42.8	43.3	1.19	T	0	7	*d*
108	Cambridge (*a*) .	47.1	31.6	15.5	62	8	11	24	39.4	. .	1.15	. .	. .	4	
109	“ (*b*) .	47.7	30.6	17.1	62	8	15	28	39.2	. .	1.28	. .	. .	5	
110	Chestnut Hill .	49.1	31.6	17.5	65	6	14	28	40.4	. .	1.37	T	. .	6	
182	Concord	47.5	28.3	19.2	62	6, 8	13	27	37.9	. .	1.30	T	. .	8	
114	Cotuit	48.5	33.7	14.8	62	8	16	29	41.1	. .	1.45	1	. .	6	
116	Deerfield	. .	. .	. .	60	6	11	28	36.2	. .	. .	. .	. .	. .	*a b*
117	Dudley	52.2	28.8	23.3	64	8	10	28	40.5	. .	0.88	T	0	6	
118	Fall River . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	Fitchburg (*a*) .	. .	. .	. .	58	6	14	24	. .	36.5	1.63	T	2	9	*a b*
121	“ (*b*) .	45.2	28.1	17.2	63	6	12	24	36.7	. .	1.68	1	0	6	
122	Framingham . .	49.7	30.0	19.7	65	8	13	28	39.8	. .	1.25	. .	. .	5	
123	Gilbertville . . .	45.8	28.7	17.1	60	9	10	24, 28	37.2	. .	1.68	4	0	7	
124	Groton (*a*) . .	46.0	29.8	16.2	61	8	12	28	37.9	. .	1.57	2	0	6	
125	“ (*b*) . .	. .	. .	. .	71	6	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green .	45.9	34.3	11.6	64	8	12	28	40.1	. .	1.35	. .	. .	5	
127	Lake Cochituate	52.3	25.5	26.8	67	6	5	24	38.9	. .	1.24	. .	. .	4	
128	Lawrence . . .	46.6	28.3	18.3	60	8	12	24, 28	37.4	. .	1.63	T	. .	7	
129	Leicester	44.7	27.7	17.0	60	6, 8	10	28	36.2	36.0	1.22	. .	0	7	*b*
131	Long Plain . . .	46.4	34.0	12.4	68	8	12	24	40.2	. .	1.52	. .	0	5	*a*
133	Lowell (*b*) . .	46.6	29.7	17.0	62	7	13	24	38.1	. .	1.59	. .	0	7	
136	“ (*c*) . . .	46.5	28.4	18.1	62	6	10	24	37.4	. .	. .	. .	. .	. .	
176	“ (*d*) . . .	46.5	31.3	15.2	67	6	14	24	38.9	. .	. .	. .	. .	3	
134	Ludlow	45.5	26.0	19.5	60	7	6	28	35.8	. .	1.51	T	0	8	
135	Lynn	43.4	30.0	13.4	61	8	13	28	36.7	. .	1.48	. .	. .	6	
183	Mansfield	. .	. .	. .	66	6	13	24	. .	38.9	0.95	. .	. .	7	*a b*
139	Middleboro' . .	49.8	28.9	20.9	69	8	8	24	39.4	. .	1.11	. .	. .	4	
140	Milton	49.2	27.0	22.2	65	8	13	28	38.1	41.3	1.24	. .	. .	4	*b*
141	Monson	47.5	25.1	22.4	65	7	8	24	36.3	. .	0.89	2	. .	9	
173	Nahant	46.8	34.1	12.7	61	8	17	28	40.4	. .	. .	. .	. .	. .	
146	Nantucket . . .	49.3	38.8	10.5	60	8	25	29	44.0	. .	0.89	. .	. .	10	
147	New Bedford (*a*)	48.8	32.4	16.4	64	8	13	28	40.6	41.1	1.32	. .	. .	3	*b*
148	“ “ (*b*)	50.1	32.5	17.6	66	8	15	28	41.3	. .	1.30	T	0	6	
149	Newburyport (*a*)	48.2	30.8	17.4	63	8	15	28	39.5	39.0	1.52	T	. .	9	*b*
152	Northampton .	44.7	30.0	14.7	56	10	15	28	37.4	. .	1.42	T	0	6	
153	Plymouth . . .	. .	. .	. .	66	8	18	24	. .	42.4	0.69	. .	. .	5	*a b*
154	Princeton . . .	. .	27.4	. .	. .	. .	8	28	. .	. .	1.48	. .	. .	5	
155	Provincetown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
158	Salem (*a*) . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
160	South Hingham	. .	30.0	. .	. .	. .	9	24	. .	. .	1.50	T	. .	4	
161	Springfield . . .	46.5	30.8	15.7	62	7	14	28	38.6	39.2	1.11	2	. .	6	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*b*
163	Taunton (*a*) . .	50.7	31.4	19.3	69	8	15	28	41.1	40.9	0.93	T	0	6	*b*
164	“ (*b*) . .	50.7	30.6	20.1	69	8	14	28	40.6	. .	0.91	T	. .	5	
165	“ (*c*) . .	50.5	29.0	21.5	70	8	10	24	39.8	. .	0.99	T	. .	5	
181	Wakefield . . .	. .	. .	. .	61	8	12	28	. .	. .	1.53	T	0	4	
168	Wellesley . . .	49.6	31.3	18.3	65	7	18	28	40.4	. .	. .	. .	. .	. .	
169	Westboro' . . .	48.2	30.9	17.3	65	7	12	24	39.6	. .	1.07	. .	. .	6	*a*
170	Williamstown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Rhode Island.														
201	Block Island . .	49.2	38.7	10.5	60	10	19	28	44.0	. .	0.66	. .	. .	5	
202	Bristol	48.9	34.9	14.0	64	8	16	28	41.9	41.7	0.85	T	. .	6	*b*
210	Kingston	49.4	31.3	18.1	69	8	13	28	40.4	. .	0.96	T	0	5	
204	Newport	52.5	35.9	16.6	64	10	19	28	44.2	. .	. .	. .	. .	. .	
205	Olneyville . . .	51.3	36.2	15.1	70	8	16	28	43.8	. .	. .	. .	. .	. .	
207	Providence (*a*) .	49.0	34.8	14.2	67	8	16	28	41.9	42.2	0.74	T	. .	4	*c*
208	" (*b*) .	50.7	31.1	19.6	68	8	13	28	40.9	. .	0.78	T	0	4	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	48.9	29.8	19.1	64	8	12	28	39.8	. .	0.70	. .	. .	4	
222	Colchester . . .	49.6	30.7	18.9	66	8	14	28	40.1	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	49.4	33.8	15.6	64	7	15	28	41.6	. .	0.83	. .	. .	4	
237	Mansfield	47.1	29.2	18.9	64	8	13	28	38.2	37.9	0.82	T	0	6	*b*
226	Middletown . .	49.9	31.0	18.8	66	8	15	28	40.8	39.5	0.75	T	. .	5	*b*
228	New Haven . .	49.3	34.1	15.2	69	8	17	28	41.7	. .	0.67	T	. .	7	
229	New London . .	49.6	36.8	12.8	65	8	18	28	43.2	. .	0.86	T	0	9	
230	Shelton	47.5	30.3	17.2	65	8	15	24	38.9	. .	. .	. .	. .	. .	
231	Thompson . . .	45.1	32.8	12.3	63	6	12	28	39.0	37.4	. .	. .	. .	. .	*a b*
233	Voluntown . . .	51.3	28.8	22.5	68	8	13	24	40.0	40.4	1.10	. .	. .	8	*b*
235	Waterbury . . .	47.3	27.6	19.7	63	7	14	24	37.4	. .	0.93	T	. .	7	
	New York.														
251	Albany	45.4	31.4	14.0	59	6	14	24	38.4	. .	1.18	. .	. .	11	
252	Boyd's Corners .	. .	. .	. .	65	7	18	28	. .	40.5	1.12	T	T	5	*a b*
253	Carmel	47.9	29.3	18.6	66	7	14	28	38.6	. .	1.85	T	T	5	
254	New York (*a*) .	. .	. .	. .	69	8	19	28	. .	43.9	0.71	. .	0	5	*e*
255	" " (*b*) .	52.8	39.0	13.8	71	8	18	28	45.8	. .	0.82	. .	. .	5	
258	Poughkeepsie . .	49.3	27.2	22.1	63	6	12	28	38.2	. .	0.79	T	. .	6	
256	Setauket	50.7	37.3	13.4	67	8	20	28	44.0	43.7	0.74	. .	. .	4	*b*

STATIONS REPORTING PRECIPITATION ONLY.—NOVEMBER, 1890.

No.	STATION	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	1.68	T	159	Salem (*b*), Mass.	1.51	T
40	Lake Village, " . .	1.83	1	166	Waltham, "	. .	. .
44	Mine Falls, " . .	1.52	. .	171	Winchester, "	1.41	. .
48	Pennichuck Station, " . .	1.22	. .	203	Lonsdale, R. I.	0.68	T
53	Weir's Bridge, " . .	1.60	T	206	Pawtucket, "	0.74	T
55	Wolfboro', " . .	1.99	T	238	Birmingham, Conn.	0.82	. .
75	Cornwall, Vt. . . .	1.28	T	247	Falls Village, "	1.00	4
107	Boston (*b*), Mass. . . .	1.11	. .	224	Hartford (*b*), "	0.65	T
111	Chicopee, " . . .	1.72	. .	225	Lake Konomoc, "	0.55	. .
112	Clinton, " . . .	1.05	. .	249	Lebanon "	0.94	T
119	Fiskdale, " . . .	0.90	T	240	New Britain, "	. .	. .
130	Leominster, " . . .	1.56	2	227	New Hartford, "	. .	. .
138	Medford, " . . .	1.36	T	241	Newington "	. .	. .
142	Mt. Nonotuck, " . . .	1.25	1	246	No. Woodstock, "	1.10	1
143	Mystic Lake, " . . .	1.36	. .	248	So. Manchester, "	0.78	. .
144	Mystic Pumping Sta., " . . .	1.36	. .	232	Uncasville, "	0.90	T
150	Newburyport (*b*), " . . .	0.82	T	234	Wallingford, "	0.97	T
156	Randolph, " . . .	1.10	T	245	W. Simsbury, "	0.61	T
170	Robert's Dam, " . . .	1.28	. .	257	S. E. Reservoir, N. Y.	1.09	. .

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$ *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	New Brunswick.														
1	St. John	25.5	7.1	18.4	47	4	-11	3	16.8	16.4	6.38	25	5	15	*c*
	Maine.														
2	Bar Harbor . .	27.1	9.5	17.6	49	4	—9	3	18.3	. .	6.13	18	4	13	
3	Belfast	. .	. .	. .	35	4, 22	—8	3	. .	15.1	. .	27	14	. .	*a c*
14	Calais	24.5	8.2	16.3	53	4	-10	31	16.4	. .	5.79	22	8	9	
4	Eastport	26.2	9.1	17.1	52	4	-10	3	17.6	. .	2.62	. .	. .	13	
5	Fairfield	17.5	-2.7	20.2	42	1	-26	31	7.4	. .	3.39	28	16	12	
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	20.7	2.1	18.7	35	15, 22	-12	31	11.4	. .	3.68	36	18	10	
8	Lewiston	23.3	0.4	22.9	37	11	-16	31	11.8	11.9	5.55	46	30	12	*b*
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
10	Orono	22.0	0.4	21.6	47	4	-36	31	11.2	12.2	4.10	. .	18	15	*b*
11	Petit Menan . .	. .	. .	. .	45	4	—5	3	. .	21.5	. .	. .	. .	. .	
12	Portland	24.5	9.4	15.1	41	23	—4	30	17.0	. .	5.08	26	14	15	
15	West Jonesport	. .	. .	. .	40	23	—6	3	. .	20.8	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	21.5	-8.1	29.6	40	21	-31	29	6.7	. .	. .	. .	. .	. .	
34	Berlin Mills . .	24.4	-6.4	30.8	48	23	-30	2	9.0	. .	4.30	42	30	11	
37	Concord	25.4	8.7	16.7	39	23, 27	-11	29	17.2	. .	3.73	27	22	6	
39	Hanover (*a*) . .	22.0	4.0	18.0	35	1	-20	29	13.5	12.4	4.66	36	18	12	*b*
58	" (*b*)	25.2	-0.8	26.0	44	23	-24	29	12.2	11.7	2.80	32	19	9	*d*
59	Littleton	24.2	-2.1	26.3	38	22	-22	29	11.0	10.6	2.88	26	15	13	*c*
42	Manchester (*b*)	28.6	8.2	20.4	42	15	-10	29	18.4	19.3	3.37	20	12	12	*b*
43	" (*c*)	28.3	10.1	18.2	44	23	—5	29	19.2	. .	3.30	23	12	12	
45	Nashua	29.9	11.0	18.9	48	23	—2	3	20.5	21.3	5.03	19	13	8	*c*
57	Newton	29.2	9.7	19.5	48	23	—2	13	19.4	. .	4.23	23	18	8	
36	No. Chesterfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
47	North Conway .	24.7	-0.5	25.2	41	23	-16	29	12.1	. .	5.98	45	. .	6	
49	Plymouth . . .	24.1	-0.1	24.2	39	23	-16	9	12.0	. .	3.94	29	24	13	
51	Stratford	20.4	-3.1	23.5	36	22	-25	29	8.6	. .	2.90	28	. .	13	
52	Walpole	26.3	3.8	22.5	42	23	-15	29	15.0	. .	3.91	32	26	7	
54	West Milan . .	22.3	-4.8	27.1	40	23	-32	29.	8.8	. .	3.76	36	. .	11	
	Vermont.														
71	Brattleboro' (*a*)	27.6	8.6	19.0	44	23	-10	29, 30	18.1	18.4	4.16	33	26	. .	*c*
72	" (*b*)	28.0	11.8	16.2	43	23	—4	29, 30	19.9	19.7	. .	. .	26	. .	*c*
73	Burlington . . .	. .	. .	. .	41	23	-10	30	. .	13.1	1.90	25	18	19	*c*
74	Chelsea	. .	. .	. .	40	23	-12	28, 30	. .	13.0	3.32	36	20	15	*a b*
88	Hartland . . .	25.5	3.0	22.5	42	23	-18	29	14.2	. .	3.50	35	24	7	
77	Jacksonville . .	27.5	4.2	23.3	40	23	-16	30	15.8	15.5	5.05	38	30	15	*c*
78	Lunenburgh . .	19.5	0.3	19.2	34	22	-14	26	9.9	10.9	3.10	31	35	12	*b*
79	Manchester . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	Northfield . . .	18.0	0.4	17.6	41	23	-22	29	9.2	. .	1.91	. .	. .	16	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	40	23	-14	30	. .	13.4	3.30	30	24	8	*a b*
85	Vernon	. .	. .	. .	40	11	-10	30	. .	19.1	2.18	20	. .	4	*a c*
89	Weathersfield Ct.	23.7	4.4	19.3	40	23	-10	28, 29	14.0	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	46	23	—5	29	. .	21.3	3.15	10	. .	. .	*a b*
102	" (*b*) . .	30.3	12.9	17.4	42	23	—6	30	21.6	21.7	3.18	16	9	8	*b*
177	" (*c*) . .	31.0	12.6	18.4	44	11	—5	29, 30	21.8	22.9	2.86	16	10	9	*e*
180	Andover . . .	28.9	13.3	15.6	47	23	2	2	21.1	23.2	2.69	20	8	7	*b*
104	Blue Hill (sum't)	32.6	14.2	18.4	53	4	—1	3	23.4	23.0	5.26	12	7	10	*c*
105	" " (base)	34.0	15.1	18.9	55	4	0	30	24.5	. .	4.93	12	7	10	
174	" " (valley)	34.4	15.1	19.3	55	4	0	3	24.7	. .	5.24	12	7	10	
106	Boston (*a*) . . .	34.2	17.8	16.4	56	4	0	3	26.0	. .	3.72	. .	. .	10	
175	Brewster	37.6	22.1	15.5	52	3	7	28	29.8	31.2	4.16	7	T	12	*d*
108	Cambridge (*a*) .	32.3	15.8	16.5	52	3	1	3	24.0	. .	5.15	. .	. .	6	
109	" (*b*) .	33.1	14.6	18.5	52	3	2	3	23.8	. .	4.40	. .	. .	5	
110	Chestnut Hill .	34.3	16.6	17.7	54	4	1	29	25.4	. .	4.76	6	4	9	
182	Concord	30.5	12.5	18.0	50	23	—2	30	21.5	. .	4.48	. .	13	9	
114	Cotuit	34 9	20.5	14.4	47	23	5	29	27.7	. .	3.85	1	. .	9	
116	Deerfield	. .	. .	. .	56	10	—9	30	. .	21.1	. .	. .	. .	. .	*a b*
117	Dudley	32.3	13.2	29.1	49	24	—2	13	22.8	. .	3.24	11	. .	8	
118	Fall River . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	Fitchburg (*a*) .	. .	. .	. .	42	23	—4	30	. .	20.8	3.71	16	12	10	*a b*
121	" . (*b*) .	29.0	11.7	17.3	45	23	—6	30	20.3	. .	2.99	18	12	11	
122	Framingham . .	33.6	14.6	19.0	50	23	—1	*f*	24.1	. .	5.20	10	. .	9	*f*
123	Gilbertville . . .	31.3	13.3	18.0	43	25	—6	30	22.3	. .	3.75	18	8	10	
124	Groton (*a*) . .	30.0	14.0	15.9	48	23	—2	30	22.0	. .	3.28	20	13	8	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green .	. .	. .	. .	50	23	0	2, 30	. .	. .	5.55	14	. .	9	
127	Lake Cochituate	35.0	12.5	22.4	53	23	—2	3, 13	23.8	. .	5.26	. .	. .	8	*g*
128	Lawrence . . .	31.0	11.2	19.8	47	22, 2	—3	29	21.1	. .	4.96	20	14	11	
129	Leicester	31.3	13.2	18.1	49	4	—2	3	23.3	21.3	3.93	12	. .	. .	*b*
131	Long Plain . . .	31.4	20.2	11.1	48	3	1	29	25.8	. .	5.47	. .	. .	9	*a*
133	Lowell (*b*) . . .	29.9	13.6	16.2	46	23	—4	29	21.7	. .	4.46	. .	16	7	
136	" (*c*) . . .	29.8	12.8	17.0	48	23	—2	29	21.3	. .	. .	. .	. .	. .	
176	" (*d*) . . .	28.7	15.0	13.7	48	23	0	3, 29	21.9	. .	. .	. .	. .	6	
134	Ludlow	29.4	11.3	18.3	45	17	—8	29	20.2	. .	3.41	12	10	12	
135	Lynn	30.7	13.9	16.8	46	23	1	3	22.3	. .	5.39	. .	. .	7	
183	Mansfield	. .	. .	. .	45	14	0	2, 29	. .	24.6	5.02	11	. .	12	*a b*
139	Middleboro' . .	34.2	17.2	17.2	54	4	1	29	25.7	. .	4.08	6	4	7	
140	Milton	31.4	15.6	15.8	50	23	0	3	23.5	25.6	5.48	7	. .	8	*b*
141	Monson	32.5	10.4	22.1	48	4, 23	-10	30	21.4	. .	3.53	11	10	12	
173	Nahant	36.3	22.2	14.1	49	23	7	9, 13	29.2	. .	. .	. .	. .	. .	*g*
146	Nantucket . . .	38.1	24.1	14.0	52	4	11	20, 29	31.1	. .	2.70	. .	. .	16	
147	New Bedford (*a*)	36.4	17.5	18.9	47	3	3	3	27.0	27.4	5.49	7	3	7	*b*
148	" " (*b*)	37.5	19.7	17.8	53	4	5	*h*	28.6	. .	5.02	1	. .	9	*h*
149	Newburyport (*a*)	33.4	14.5	18.8	50	23	1	13	23.9	23.4	5.51	18	10	13	*b*
152	Northampton .	30.9	15.0	15.9	41	23	1	29	23.0	. .	3.25	. .	14	9	
153	Plymouth . . .	. .	. .	. .	58	21	7	2	. .	28.4	3.61	5	. .	8	*a b*
154	Princeton . . .	. .	9.7	. .	. .	. .	—6	29	. .	. .	. .	. .	. .	. .	
155	Provincetown .	38.6	22.9	15.7	51	4	10	29	30.7	. .	3.48	9	5	12	
158	Salem (*a*) . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
160	South Hingham	. .	16.8	. .	. .	. .	0	29	. .	. .	4.98	7	. .	9	
161	Springfield . . .	29.7	15.6	14.1	46	23	1	29	22.6	23.9	3.15	13	8	11	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	37.7	17.7	20.0	55	4	2	29	27.7	27.2	. .	. .	. .	. .	*b*
164	" (*b*) . .	37.4	17.4	20.0	55	4	3	3, 29	27.4	. .	4.21	10	5	8	
165	" (*c*) . .	37.0	17.2	19.8	56	4	1	29	27.1	. .	4.28	. .	. .	12	
181	Wakefield . . .	34.8	15.4	19.4	53	4	0	29, 30	25.1	. .	5.62	16	10	6	
168	Wellesley . . .	38.2	15.8	22.4	52	3	—1	30	27.0	29.7	2.74	. .	. .	8	*b*
169	Westboro' . . .	32.0	16.8	15.2	52	23	—2	30	24.4	. .	4.17	16	11	8	*a*
170	Williamstown .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
172	Worcester . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Rhode Island.														
201	Block Island . .	38.4	24.3	14.1	54	3	10	13	31.4	. .	2.57	2	. .	. .	
202	Bristol	36.8	20.7	16.1	50	3, 4	5	3	28.7	28.2	4.95	8	4	12	b
210	Kingston	36.3	17.4	18.9	52	4	3	29	26.8	. .	6.16	9	3	6	
204	Newport	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
205	Olneyville . . .	38.3	21.7	16.6	54	4	6	3	30.0	. .	. .	. .	4	. .	
207	Providence (a) .	36.4	20.5	15.9	52	23	6	3	28.4	28.0	5.28	10	. .	12	c
208	" (b) .	35.9	16.7	19.2	51	4	2	3	26.3	. .	4.33	8	4	9	
209	Woonsocket . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
	Connecticut.														
221	Canton	28.0	15.1	12.9	48	23	1	8	21.6	. .	4.20	15	10	5	
222	Colchester . . .	36.2	17.2	18.9	53	4	2	29	26.7	. .	. .	. .	. .	. .	
223	Hartford (a) . .	29.7	17.3	12.4	46	23	. 0	29	23.5	23.1	3.30	11	. .	10	b
237	Mansfield	32.2	14.6	17.6	48	23	—2	29	23.4	23.4	4.21	7	3	13	b
226	Middletown . .	33.3	17.4	15.9	52	23	0	29	25.4	24.7	4.46	8	6	7	b
228	New Haven . .	33.9	19.4	14.5	51	23	5	29	26.6	. .	2.90	8	4	13	
229	New London . .	36.4	22.5	13.9	52	3	8	29	29.4	. .	3.93	7	2	11	
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	27.1	18.9	8.2	46	23	2	i	23.0	22.7	. .	. .	. .	. .	a b i
233	Voluntown . . .	35.1	17.7	17.4	50	3	2	29	26.4	26.9	5.03	8	. .	8	b
235	Waterbury . . .	28.8	16.0	12.8	46	23	—3	29	22.4	. .	5.21	10	6	8	
	New York.														
251	Albany	26.9	12.8	14.1	46	23	—2	20, 30	19.8	. .	2.94	. .	. .	14	
252	Boyd's Corner .	. .	. .	. .	45	11, 23	2	30	. .	26.8	3.69	11	4	9	a b
253	Carmel	32.2	17.0	15.2	45	11	1	30	24.6	. .	3.99	10	. .	9	
254	New York (a) .	. .	. .	. .	49	3	13	28	. .	29.9	3.70	11	. .	9	e
255	" " (b) .	38.4	24.3	14.1	54	3	13	29	31.4	. .	5.43	. .	. .	13	
258	Poughkeepsie . .	32.4	14.7	17.7	45	11	—8	29	23.6	. .	3.96	10	8	9	
256	Setauket	38.6	24.2	14.4	54	4	11	29	31.4	31.0	5.65	6	3	11	b

STATIONS REPORTING PRECIPITATION ONLY.—DECEMBER, 1890.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.41	35	159	Salem (b), Mass.	5.62	16
40	Lake Village, " . .	4.97	42	166	Waltham, "	5.15	. .
44	Mine Falls, " . .	4.55	. .	171	Winchester, "	4.26	8
48	Pennichuck Station, " . .	4.68	. .	203	Lonsdale, R. I.	5.25	8
53	Weir's Bridge, " . .	4.87	39	206	Pawtucket, "	5.06	10
55	Wolfboro', " . .	3.92	22	238	Birmingham, Conn.	3.80	8
75	Cornwall, Vt. . . .	2.74	22	247	Falls Village, "	4.45	12
107	Boston (b), Mass. . . .	3.82	. .	224	Hartford (b), "	3.48	8
111	Chicopee, " . . .	. .	. .	225	Lake Konomoc, "	7.61	. .
112	Clinton, " . . .	4.28	. .	249	Lebanon "	4.62	8
119	Fiskdale, " . . .	2.40	8	240	New Britain, "	. .	. .
130	Leominster, " . . .	3.48	14	227	New Hartford, "	1.75	18
138	Medford, " . . .	4.14	. .	241	Newington "	. .	. .
142	Mt. Nonotuck, " . . .	2.57	16	246	No. Woodstock, "	. .	. .
143	Mystic Lake, " . . .	5.08	8	248	So. Manchester, "	3.38	. .
144	Mystic Pumping Sta.," . . .	4.27	. .	232	Uncasville, "	5.76	6
150	Newburyport (b), " . . .	2.91	. .	234	Wallingford, "	4.18	. .
156	Randolph, " . . .	3.40	3	245	W. Simsbury, "	4.03	13
179	Robert's Dam, " . . .	4.17	8	257	S. E. Reservoir, N. Y.	4.41	. .

Notes.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Minimum on 3d, 29th, 30th. *g*—Temperature record for 26 days. *h*—Minimum on 2d, 3d, 29th. *i*—Minimum on 28th, 29th. 30th.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	. .	3.40	. .	. .	0.41	0.34	. .	0.26	0.40	. .	0.15	0.42	0.23	. .
4	Eastport . . Me.	. .	0.11	0.02	. .	0.63	0.41	0.02	0.20	. .	. .	0.14	0.18	0.16	. .
2	Bar Harbor	0.01	0.02	. .	. .	*	0.52	. .	T	. .	. .	*	0.58	0.12	. .
5	Fairfield	0.07	. .	. .	. .	*	0.36	. .	0.03	. .	. .	*	0.51	0.10	. .
6	Gardiner	*	0.20	. .	. .	*	0.35	. .	0.09	. .	*	*	0.46	0.15	. .
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	.
8	Lewiston	0.03	0.20	. .	. .	0.05	0.25	. .	0.06	. .	0.04	0.38	0.05	0.10	. .
12	Portland	. .	0.05	. .	. .	0.02	0.34	. .	T	T	0.10	0.28	0.10	0.20	. .
51	Stratford, N.H.	*	0.36	. .	. .	*	0.65	. .	*	0.08	0.05	*	0.43	0.24	0.07
34	Berlin Mills	0.29	0.35	. .	. .	*	0.62	. .	0.14	. .	0.12	0.49	. .	0.40	. .
47	North Conway	. .	. .	. .	. .	T	. .	. .	0.41	. .	. .	0.82	. .	0.41	. .
49	Plymouth	0.10	0.10	. .	. .	0.05	0.33	. .	0.06	. .	0.16	0.91	. .	0.25	. .
39	Hanover	0.02	. .	. .	. .	0.26	0.06	. .	0.03	0.03	0.17	0.53	. .	0.14	. .
40	Lake Village	0.07	. .	. .	. .	*	0.22	. .	. .	. .	. .	1.16	. .	0.10	. .
37	Concord	0.01	0.01	. .	. .	0.03	0.20	. .	T	. .	0.05	0.77	. .	. .	. .
52	Walpole	*	0.20	. .	. .	*	0.18	. .	. .	. .	*	0.75	*	0.15	. .
45	Nashua	T	. .	. .	. .	0.19	0.09	. .	. .	. .	0.13	0.33	T	0.06	. .
81	Newport . . Vt.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh	. .	0.17	. .	. .	*	0.58	. .	. .	. .	. .	*	0.50	0.48	. .
73	Burlington	0.01	0.07	T	. .	*	0.37	. .	0.08	. .	0.10	0.30	0.01	0.13	. .
82	Northfield	0.02	0.13	T	. .	T	0.53	T	T	0.02	0.30	0.20	0.01	0.12	. .
75	Cornwall	. .	. .	. .	. .	0.37	. .	. .	. .	. .	*	*	0.49	0.57	. .
74	Chelsea	0.04	0.09	. .	. .	0.03	0.41	. .	0.22	0.03	0.32	0.48	0.07	0.32	. .
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	0.08	0.08	. .	. .	0.10	0.30	. .	0.12	. .	0.16	0.85	. .	0.18	. .
159	Salem . . Mass.	. .	. .	. .	. .	*	0.87	. .	. .	*	0.21	0.37	*	0.14	. .
149	Newburyport	. .	. .	. .	. .	0.22	0.19	. .	. .	T	0.37	0.56	0.01	0.05	. .
104	Blue Hill	. .	T	. .	. .	0.09	0.11	. .	T	. .	0.12	0.35	0.03	T	. .
122	Framingham	. .	. .	. .	. .	*	0.19	. .	. .	. .	*	0.63	. .	0.04	. .
120	Fitchburg	. .	. .	. .	. .	0.21	0.11	0.05	. .	. .	0.13	0.53	0.01	0.10	. .
123	Gilbertville	T	. .	. .	. .	0.16	0.14	. .	. .	. .	*	0.63	. .	0.16	. .
152	Northampton	. .	0.05	. .	. .	0.05	. .	. .	. .	. .	0.17	0.52	0.04	0.10	. .
134	Ludlow	0.05	. .	. .	. .	0.10	0.05	. .	0.02	. .	0.05	0.50	0.05	0.10	. .
155	Provincetown	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
146	Nantucket	. .	. .	. .	. .	0.12	0.05	. .	0.02	. .	0.32	0.30	0.05	. .	. .
114	Cotuit	. .	. .	. .	. .	0.07	0.03	. .	0.03	. .	0.10	0.15	. .	. .	. .
153	Plymouth	. .	. .	. .	. .	. .	0.08	. .	T	. .	*	0.35	. .	. .	. .
148	New Bedford	. .	. .	. .	. .	0.05	. .	. .	. .	. .	0.20	*	0.21	. .	. .
163	Taunton	. .	. .	. .	. .	0.08	0.02	. .	0.03	. .	0.23	0.25	T	T	. .
202	Bristol . . . R. I.	. .	. .	. .	. .	*	0.04	. .	. .	T	*	0.19	0.17	T	. .
207	Providence	. .	. .	. .	. .	*	0.05	. .	. .	. .	*	*	0.41	. .	. .
201	Block Island	. .	. .	. .	. .	0.08	0.04	0.04	. .	. .	0.09	0.04	0.01	0.02	. .
233	Voluntown Conn.	. .	. .	. .	. .	0.02	0.02	T	T	. .	. .	0.32	. .	T	. .
229	New London	T	0.01	. .	. .	0.11	0.02	0.02	T	0.01	0.20	0.05	. .	T	. .
224	Hartford	T	. .	. .	. .	0.01	. .	. .	T	. .	0.18	0.30	. .	. .	. .
234	Wallingford	. .	. .	. .	. .	0.65	T	0.01	. .	. .	*	*	0.25	. .	. .
235	Waterbury	T	. .	. .	. .	0.03	0.02	0.01	. .	0.03	*	*	0.39	. .	. .
230	Shelton	. .	. .	. .	. .	0.47	. .	. .	. .	. .	. .	0.11	. .	. .	. .
251	Albany . . N.Y.	. .	0.02	. .	. .	0.34	0.05	0.01	T	T	0.18	0.30	0.34	0.15	. .
253	Carmel	. .	. .	. .	. .	0.08	0.05	0.04	. .	. .	0.12	0.16	. .	0.06	. .
255	New York	0.02	T	. .	. .	0.22	0.03	0.01	T	T	0.05	0.06	. .	T	. .
256	Setauket	. .	. .	. .	. .	0.06	T	T	0.04	. .	0.03	0.11	. .	T	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.65	0.98	. .	0.03	. .	0.06	. .	. .	. .	0.04	0.16	. .	. .	. .	. .	. .	. .
4	0.44	0.54	0.04	T	. .	0.48	0.02	. .	. .	0.20	0.01	0.11	. .	. .	T	. .	0.04
2	*	1.51	. .	0.07	T	0.60	. .	0.02	*	0.18	. .	. .	0.01	. .	. .	. .	T
5	*	1.21	. .	. .	*	0.18	. .	. .	0.02	. .	. .	. .	0.02	. .	. .	. .	0.05
6	*	1.35	. .	. .	. .	0.35	. .	0.08	. .	. .	. .	. .	0.15	. .	. .	. .	. .
7	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	0.57	0.46	. .	. .	. .	0.40	. .	0.01	0.07	0.02	. .	. .	0.24	. .	. .	T	0.07
12	0.55	0.61	. .	. .	. .	0.34	. .	. .	0.07	0.06	. .	. .	0.15	. .	. .	0.01	0.01
51	0.38	0.65	. .	. .	. .	0.18	. .	. .	. .	. .	. .	0.24	. .	. .	. .	. .	T
34	. .	1.20	. .	. .	0.12	. .	. .	0.07	. .	0.05	. .	. .	0.29	. .	. .	. .	. .
47	*	1.13	. .	. .	. .	. .	. .	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .
49	0.63	0.34	. .	. .	. .	0.40	. .	0.02	0.12	. .	. .	. .	0.38	. .	. .	. .	. .
39	0.36	0.21	. .	. .	. .	0.20	. .	. .	0.04	. .	. .	. .	0.43	. .	. .	. .	T
40	. .	*	0.80	. .	. .	. .	. .	0.48	0.39	. .	. .	. .	0.47	. .	. .	*	0.07
37	*	0.80	. .	. .	. .	0.42	. .	. .	0.04	. .	. .	. .	0.41	. .	. .	T	0.14
52	*	0.90	. .	. .	. .	0.29	. .	. .	0 03	. .	. .	. .	0.62	. .	. .	*	T
45	0.60	0.15	. .	. .	. .	0.11	. .	. .	0.06	. .	. .	. .	0.52	. .	. .	0.11	. .
81	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	0.40	0.72	. .	. .	. .	. .	0.10	. .	*	0.10	. .	0.10	. .	. .	. .	0.05	T
73	0.23	0.35	. .	. .	. .	T	0.01	. .	*	0.18	. .	. .	0.18	. .	. .	. .	0.03
82	0.08	0.56	0.01	T	. .	0.21	T	0.03	0.05	0.03	. .	. .	0.45	. .	. .	. .	0.01
75	*	0.89	. .	. .	. .	0.41	. .	. .	0.10	. .	. .	. .	*	0.30	. .	. .	. .
74	*	0.92	. .	T	. .	0.34	. .	T	*	0.12	. .	. .	0.38	. .	. .	T	0.03
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	0.73	0.23	. .	. .	. .	0.53	. .	0.12	0.16	. .	. .	. .	0.61	. .	. .	0.03	0.03
159	0.32	0.23	. .	. .	. .	0.04	. .	T	0.05	. .	. .	. .	0.46	. .	. .	0.23	0.02
149	0.42	0.23	T	. .	. .	0.10	. .	T	0.06	. .	. .	. .	0.48	. .	. .	0.16	T
104	0.59	0.41	. .	. .	. .	0.08	. .	. .	0.06	. .	. .	. .	0.47	. .	. .	0.30	0.02
122	*	0.74	. .	. .	. .	0.08	. .	. .	0.09	. .	. .	*	0.52	. .	. .	*	0.25
120	0.77	0.28	. .	. .	. .	0.10	. .	0.03	0.08	. .	. .	. .	0.60	. .	. .	0.06	0.07
123	*	1.20	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.09
152	0.87	0.20	. .	. .	. .	0.12	. .	. .	0.06	. .	. .	. .	0.68	. .	. .	0.09	0.03
134	0.75	0.33	. .	. .	. .	0.13	. .	. .	0.10	. .	. .	. .	0.67	. .	. .	0.22	0.05
155	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
146	0.85	0.05	. .	. .	. .	0.44	. .	. .	0.04	0.02	. .	. .	0.67	0.01	. .	0.58	. .
114	0.75	0.12	. .	. .	. .	. .	. .	. .	0.16	. .	. .	. .	0.47	. .	. .	0.40	. .
153	*	0.95	. .	. .	. .	*	0.16	. .	*	0.44	. .	. .	*	0.08	. .	0.28	. .
148	*	1.27	. .	T	. .	0.12	. .	. .	0.12	. .	. .	. .	0.46	. .	. .	0.23	T
163	0.99	0.36	. .	T	. .	0.13	. .	. .	0.08	. .	. .	. .	0.60	. .	. .	0.31	0.01
202	0.90	0.26	. .	T	. .	0.05	. .	. .	0.04	. .	. .	. .	0.55	. .	. .	0.23	T
207	*	1.24	. .	. .	. .	0.09	. .	. .	0.10	. .	. .	. .	0.64	. .	. .	*	0.26
201	0.80	0.09	. .	. .	. .	0.33	. .	. .	0.07	0.01	. .	0.01	0.28	. .	. .	0.37	0.05
233	1.08	0.60	. .	. .	. .	0.10	. .	. .	0.20	. .	. .	. .	0.50	. .	. .	0.30	T
229	1.00	0.75	. .	. .	. .	0.18	. .	0.01	0.10	T	. .	. .	0.51	. .	. .	0.31	T
224	0.77	0.32	. .	. .	. .	0.11	. .	. .	0.01	. .	. .	. .	0.54	. .	. .	0.16	T
234	1.20	0.38	. .	. .	. .	0.17	. .	. .	0.06	. .	. .	*	0.38	. .	. .	0.15	. .
235	0.90	0.30	. .	. .	. .	0.27	. .	. .	0.16	. .	. .	. .	0.39	. .	. .	0.13	0.01
230	. .	0.04	. .	. .	. .	0.24	T	. .	0.05	. .	. .	0.35	. .	. .	. .	. .	. .
251	0.50	0.15	0.01	. .	. .	0.05	. .	T	0.02	0.02	. .	. .	0.06	0.02	. .	0.06	. .
253	*	1.28	. .	. .	. .	0.31	. .	. .	0.05	. .	. .	. .	0.33	. .	. .	0.28	. .
255	1.25	0.32	. .	. .	. .	0.18	T	. .	0.01	T	. .	. .	0.23	. .	. .	0.57	T
256	0.80	0.06	. .	. .	. .	0.18	T	T	T	T	. .	. .	0.25	. .	. .	0.34	T

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	0.54	. .	0.76	. .	. .	1.30	0.18	. .	. .	0.23	. .	. .
4	Eastport . . Me. .	0.03	. .	0.32	. .	0.42	. .	. .	1.20	0.18	. .	. .	0.08	. .	. .
2	Bar Harbor	. .	. .	0.01	*	0.81	. .	. .	*	1.09	T	. .	0.03	. .	*
5	Fairfield	. .	. .	0.06	*	0.32	. .	. .	1.07	. .	. .	. .	. .	. .	0.20
6	Gardiner	. .	. .	0.08	*	0.25	. .	. .	1.41	. .	. .	. .	. .	. .	*
7	Kent's Hill	. .	. .	. .	*	0.34	. .	. .	1.32	. .	. .	. .	. .	. .	0.38
8	Lewiston	. .	. .	0.11	0.12	0.21	. .	. .	1.53	. .	. .	. .	. .	. .	0.10
12	Portland	. .	. .	0.09	0.12	0.19	. .	. .	1.54	0.04	. .	. .	. .	. .	0.05
51	Stratford, N.H. .	. .	. .	. .	*	0.85	. .	. .	1.04	. .	. .	. .	0.02	. .	0.15
34	Berlin Mills	. .	. .	0.03	*	0.63	. .	. .	1.44	. .	. .	. .	0.10	. .	0.25
47	North Conway . .	. .	. .	. .	*	0.84	. .	*	1.21	. .	. .	. .	. .	. .	0.58
49	Plymouth	. .	*	0.19	0.12	0.16	. .	. .	1.36	. .	. .	. .	. .	. .	0.14
39	Hanover	. .	T	. .	0.21	. .	. .	T	0.89	. .	. .	. .	. .	. .	0.02
40	Lake Village . . .	. .	0.11	. .	0.23	. .	. .	. .	1.43	. .	. .	. .	. .	. .	0.18
37	Concord	. .	0.10	0.08	0.04	. .	. .	. .	1.25	. .	. .	. .	. .	. .	0.23
52	Walpole	. .	0.15	. .	. .	. .	. .	. .	1.16	. .	T	. .	T	. .	0.22
45	Nashua	. .	0.04	0.04	0.10	0.01	. .	T	1.21	. .	0.03	. .	. .	. .	0.24
81	Newport . . Vt. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh	. .	. .	0.01	. .	. .	. .	. .	0.85	. .	. .	. .	. .	0.45	. .
73	Burlington	. .	. .	. .	*	0.25	. .	*	0.56	. .	. .	. .	T	. .	*
82	Northfield	. .	T	0.01	0.06	0.24	. .	. .	1.05	T	. .	T	0.01	.	0.03
75	Cornwall	0.20	. .	. .	*	1.64	. .	. .	1.08	. .	. .	. .	. .	. .	0.22
74	Chelsea	. .	. .	0.07	0.03	0.30	. .	. .	1.04	0.08	. .	. .	0.02	. .	*
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	*	0.15	0.16	0.55	. .	*	1.21	. .	0.03	. .	0.02	. .	*
159	Salem . . Mass. .	. .	*	0.09	*	0.12	. .	. .	0.73	. .	0.02	. .	. .	. .	*
149	Newburyport . . .	T	T	0.10	0.14	. .	. .	T	0.96	. .	0.02	. .	. .	. .	0.16
104	Blue Hill	. .	0.04	0.07	0.09	0.01	. .	T	1.04	. .	0.05	T	. .	. .	0.30
122	Framingham . . .	. .	*	0.13	*	0.18	. .	*	0.85	. .	0.07	. .	. .	. .	0.25
120	Fitchburg	. .	0.01	0.06	0.16	0.01	. .	. .	1.16	. .	0.02	. .	. .	. .	0.33
123	Gilbertville	. .	T	0.08	0.07	0.08	. .	. .	1.72	. .	0.19	. .	0.07	. .	0.32
152	Northampton . . .	. .	. .	. .	0.44	0.02	. .	. .	1.52	. .	. .	. .	. .	. .	0.58
134	Ludlow	. .	0.03	0.07	0.23	. .	. .	. .	1.91	. .	0.02	. .	. .	. .	0.10
155	Provincetown . . .	. .	0.03	0.06	0.02	T	. .	T	0.94	0.01	T	. .	. .	. .	0.38
146	Nantucket	. .	. .	0.02	0.01	0.01	. .	. .	0.81	0.09	. .	. .	0.01	. .	0.01
114	Cotuit	. .	. .	. .	0.11	. .	. .	. .	0.81	. .	. .	. .	0.02	. .	0.52
153	Plymouth	. .	. .	. .	0.13	0.13	. .	. .	*	1.09	T	. .	. .	. .	*
148	New Bedford . . .	. .	0.15	. .	0.02	. .	. .	*	0.78	. .	. .	. .	. .	. .	0.52
163	Taunton	0.02	0.03	0.03	0.02	. .	. .	T	1.55	. .	0.02	. .	. .	. .	0.54
202	Bristol . . . R. I. .	. .	. .	0.10	. .	T	. .	T	0.92	. .	0.01	. .	. .	. .	*
207	Providence	. .	*	0.09	0.02	. .	. .	T	1.49	. .	T	. .	. .	. .	0.36
201	Block Island	0.01	T	0.02	T	0.04	. .	. .	0.46	0.02	T	0.01	. .	. .	0.30
233	Voluntown Conn.	. .	. .	0.03	T	. .	. .	T	1.43	. .	. .	. .	. .	. .	0.31
229	New London . . .	. .	0.03	0.01	0.02	T	. .	. .	0.66	0.01	T	T	. .	. .	0.20
224	Hartford	. .	0.08	. .	0.13	. .	. .	*	1.91	. .	. .	. .	. .	. .	0.48
234	Wallingford	. .	T	0.10	0.09	. .	. .	. .	1.14	. .	. .	. .	. .	. .	0.66
235	Waterbury	. .	. .	0.14	0.12	. .	. .	*	1.87	. .	. .	. .	. .	. .	0.61
230	Shelton	. .	0.30	. .	0.12	. .	. .	0.77	0.74	. .	. .	. .	. .	. .	0.62
251	Albany . . N.Y. .	. .	T	0.02	0.22	0.06	. .	T	0.88	0.02	0.02	0.02	0.02	. .	0.16
253	Carmel	. .	0.07	. .	*	0.29	. .	*	2.04	. .	. .	. .	. .	. .	1.15
255	New York	. .	0.08	0.06	0.16	. .	. .	T	1.11	. .	T	. .	. .	. .	0.74
256	Setauket	. .	0.07	0.04	0.11	. .	. .	T	0.70	. .	T	. .	. .	. .	0.63

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
1	0.40	. .	. .	0.13	0.20	0.60	. .	. .	. .	. .	. .	0.94	. .	. .			
4	0.41	. .	. .	0.20	0.23	0.50	0 03	. .	. .	0.05	0.10	0.73	0.08	0.02			
2	0.48	. .	. .	*	0.28	0.16	. .	. .	0.01	*	*	0.76	. .	0.01			
5	. .	. .	. .	0.15	0.08	0.22	. .	. .	. .	0.18	*	0.49	. .	*			
6	0.10	. .	*	*	0.43	0.62	. .	. .	. .	*	*	0.89	T	*			
7	. .	. .	. .	0.19	. .	0.65	. .	. .	. .	*	0.68	. .	. .	*			
8	0.15	. .	0.01	0.29	0.21	0.61	. .	. .	. .	0.30	0.36	0.03	0.01	0.10			
12	0.07	. .	0.01	0.29	0.10	0.75	. .	. .	. .	0.15	0.14	0.39	0.01	0.10			
51	. .	. .	*	0.10	0.14	0.03	. .	. .	. .	. .	0.31	. .	. .	0.22			
34	0.05	. .	. .	. .	0.33	. .	0.62	. .	. .	. .	0.20	. .	. .	0.42			
47	. .	. .	. .	0.81	. .	0.52	. .	. .	. .	. .	. .	. .	. .	*			
49	0.16	. .	*	0.49	0.24	0.61	. .	. .	. .	0.15	0.65	0.23	. .	0.32			
39	. .	. .	T	0.21	0.25	0.34	. .	. .	. .	0.07	0.42	T	*	0.34			
40	. .	. .	. .	0.45	*	0.53	. .	. .	. .	. .	0.88	. .	. .	0.47			
87	. .	. .	. .	*	*	1.24	. .	. .	. .	0.04	*	0.92	. .	0.30			
52	. .	. .	. .	0.67	. .	0.70	. .	. .	. .	*	*	0.69	. .	0.55			
45	. .	. .	0.03	0.77	T	0.80	. .	. .	. .	0.09	0.51	0.09	T	0.23			
81	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .			
78	. .	. .	. .	. .	. .	0.40	0.30	. .	. .	. .	*	0.42	T	0.25			
73	0.19	*	0.16	0.24	. .	0.17	. .	. .	. .	T	*	0.25	0.12	0.04			
82	0.03	T	0.16	0.35	0.06	0.30	0.02	. .	. .	0.05	0.32	0.20	. .	0.40			
75	. .	. .	. .	0.63	. .	0.11	. .	. .	. .	. .	0.47	. .	0.21	0.24			
74	0.15	. .	0.14	0.59	0.07	0.37	. .	. .	. .	0.12	0.23	0.19	. .	0.45			
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .			
77	0.57	. .	*	0.47	0.40	0.85	. .	T	. .	0.18	0.58	0.30	0.03	0.63			
159	0.29	. .	. .	0.26	. .	0.85	. .	. .	. .	*	0.05	0.70	. .	0.10			
149	0.01	. .	. .	0.66	0.19	0.94	. .	. .	. .	0.10	0.65	0.09	T	0.25			
104	0.01	. .	. .	0.19	0.04	0.40	. .	. .	T	0.02	0.39	0.11	T	0.10			
122	. .	. .	. .	*	0.24	0.68	. .	. .	. .	*	*	0.80	. .	0.40			
120	. .	. .	. .	0.38	0.04	0.72	. .	. .	. .	0.04	0.49	0.09	. .	0.17			
123	. .	. .	. .	0.05	. .	. .	. .	. .	. .	0.08	. .	0.10	. .	0.30			
152	. .	. .	. .	0.21	0.07	0.75	. .	. .	. .	. .	0.50	0.05	. .	0.44			
134	0.35	. .	. .	0.20	. .	0.46	. .	. .	. .	0.10	0.40	0.30	. .	0.35			
155	0.15	. .	. .	0.18	0.09	0.56	. .	. .	. .	0.02	0.24	0.14	. .	0.09			
146	0.75	. .	. .	. .	0.02	0.65	. .	. .	. .	0.11	0.03	0.05	T	0.15			
114	. .	. .	. .	0.08	. .	0.65	. .	. .	. .	0.04	0.20	. .	. .	0.22			
153	0.76	. .	. .	*	0.12	0.52	. .	. .	. .	*	*	0.44	*	0.54			
148	. .	. .	. .	0.07	*	0.52	. .	. .	0.01	*	*	0.28	. .	0.50			
163	. .	. .	. .	0.16	0.14	0.47	. .	. .	. .	0.04	0.25	0.15	T	0.20			
202	0.48	. .	. .	0.03	0.02	0.53	. .	. .	. .	. .	0.27	. .	. .	0.15			
207	. .	. .	. .	*	0.13	0.60	. .	. .	. .	*	*	0.44	. .	0.22			
201	0.02	. .	. .	0.01	0.03	0.34	. .	. .	. .	T	0.08	0.05	. .	0.11			
233	. .	. .	. .	. .	. .	3.00	. .	. .	. .	T	0.20	0.03	. .	0.25			
229	0.01	. .	. .	0.02	. .	0.50	. .	. .	. .	0.09	0.10	0.05	. .	0.70			
224	. .	. .	. .	0.10	. .	0.36	. .	. .	. .	0.06	0.12	. .	. .	0.40			
234	. .	. .	. .	0.02	. .	0.55	. .	. .	. .	T	0.10	0.03	. .	0.40			
235	. .	. .	. .	0.03	. .	0.46	. .	. .	. .	*	*	0.21	. .	0.33			
230	. .	. .	. .	. .	0.54	. .	T	. .	. .	0.10	0.12	. .	0.06	0.66			
251	0.02	. .	T	0.18	0.20	0.34	. .	. .	. .	0.04	0.20	0.02	. .	0.10			
253	. .	. .	. .	. .	. .	0.36	. .	. .	. .	*	0.21	. .	. .	0.44			
255	. .	. .	. .	T	T	0.98	T	T	. .	0.22	0.04	. .	T	0.47			
256	. .	. .	. .	. .	0.06	0.67	. .	. .	. .	0.15	0.02	. .	. .	0.55			

T Trace, when precipitation is less than 0.01 inch.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	1.01	0.30	1.20	. .	. .	0.15	0.28	. .	. .	. .	. .	0.13	0.33	0.06
4	Eastport . . Me. .	0.89	0.24	0.62	. .	0.05	0.28	0.04	. .	. .	. .	0.02	0.04	0.19	0.24
2	Bar Harbor	*	0.87	0.54	. .	T	*	0.43	. .	. .	. .	*	0.12	*	*
5	Fairfield	0.33	*	1.16	. .	0.10	0.70	. .	. .	. .	. .	. .	. .	0.25	*
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	Lewiston	0.27	0.16	0.52	. .	0.38	0.63	. .	. .	. .	. .	0.01	0.02	0.18	0.23
12	Portland	0.45	0.18	1.06	0.01	0.14	0.64	T	. .	. .	. .	0.04	0.02	0.09	0.56
51	Stratford, N.H. .	0.21	. .	0.22	. .	0.38	0.43	. .	. .	. .	. .	. .	. .	0.15	. .
34	Berlin Mills	. .	0.10	. .	. .	0.13	0.52	. .	. .	. .	. .	. .	. .	0.50	*
47	North Conway . .	0.40	0.32	. .	. .	*	*	0.78	. .	. .	. .	*	*	*	*
49	Plymouth	0.15	. .	0.12	. .	0.33	0.48	. .	. .	. .	. .	*	0.03	. .	0.40
39	Hanover	. .	. .	0.04	. .	0.05	0.48	. .	. .	. .	. .	0.01	. .	. .	0.20
40	Lake Village . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	0.05	0.03	0.55	. .	0.08	1.02	. .	. .	. .	. .	0.03	T	0.02	0.60
52	Walpole	T	. .	0.10	. .	0.09	0.54	. .	. .	. .	. .	*	0.03	*	*
45	Nashua	0.16	*	0.97	. .	0.06	1.62	. .	. .	. .	. .	T	0.02	. .	0.74
81	Newport . . Vt. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh	T	. .	0.40	. .	0.60	0.60	. .	. .	. .	. .	0.02	0.08	0.10	0.28
73	Burlington	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
82	Northfield	0.04	. .	0.01	. .	0.22	0.37	. .	. .	. .	. .	0.05	. .	0.05	0.13
75	Cornwall	. .	. .	. .	. .	. .	0.63	. .	. .	. .	. .	. .	. .	0.34	0.36
74	Chelsea	0.03	. .	0.10	. .	0.10	0.33	. .	. .	. .	. .	T	T	0.08	0.48
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	0.07	T	0.08	. .	0.16	0.55	. .	. .	. .	. .	0.03	0.04	0.02	0.35
159	Salem . . Mass. .	*	0.63	0.55	. .	. .	0.54	. .	. .	. .	. .	0.08	. .	. .	0.75
149	Newburyport . . .	0.29	*	1.20	. .	0.02	0.61	. .	. .	. .	. .	0.05	0.02	. .	0.72
104	Blue Hill	0.32	1.05	0.10	. .	0.01	0.60	. .	. .	. .	. .	0.13	T	. .	0.52
122	Framingham . . .	*	*	1.18	. .	0.06	0.88	. .	. .	. .	. .	*	0.10	. .	*
120	Fitchburg	0.18	0.11	0.41	. .	0.12	0.76	. .	. .	. .	. .	0.05	0.01	. .	0.61
123	Gilbertville	0.23	0.09	0.31	. .	0.12	0.98	. .	. .	. .	. .	0.07	0.03	. .	0.69
152	Northampton . . .	. .	. .	0.15	. .	0.12	0.80	. .	. .	. .	. .	0.09	. .	. .	0.65
134	Ludlow	0.30	0.05	0.25	. .	0.14	0.40	. .	. .	. .	. .	0.10	. .	. .	0.70
155	Provincetown . . .	0.49	0.25	0.75	. .	0.02	0.28	. .	. .	. .	. .	0.30	T	. .	0.56
146	Nantucket	0.26	0.18	0.20	. .	. .	0.59	. .	. .	. .	. .	0.76	0.10	. .	0.01
114	Cotuit	0.63	*	0.28	. .	0.02	0.35	. .	. .	. .	. .	*	0.81	. .	*
153	Plymouth	T	*	1.65	. .	. .	*	0.32	. .	. .	. .	*	0.27	. .	*
148	New Bedford . . .	0.27	. .	1.00	. .	0.01	0.42	. .	. .	. .	. .	0.54	. .	*	*
163	Taunton	0.45	*	0.45	. .	T	0.57	. .	. .	. .	. .	*	0.27	. .	*
202	Bristol . . . R. I. .	0.31	*	0.51	. .	0.01	0.43	. .	. .	. .	. .	*	0.30	. .	*
207	Providence	*	0.48	1.00	. .	T	0.70	. .	. .	. .	. .	*	0.20	. .	*
201	Block Island	0.46	0.13	0.09	. .	. .	0.27	. .	. .	. .	0.38	. .	0.03	. .	0.17
233	Voluntown Conn.	*	0.50	0.40	. .	T	0.45	. .	. .	. .	*	0.24	0.04	. .	0.45
229	New London . . .	0.60	0.70	0.36	. .	. .	0.60	. .	. .	. .	. .	0.32	0.05	. .	0.50
224	Hartford	0.26	. .	0.30	. .	0.02	1.09	. .	. .	. .	. .	0.11	0.02	. .	0.47
234	Wallingford	0.30	0.03	0.22	. .	. .	0.73	. .	. .	. .	. .	*	0.16	*	0.53
235	Waterbury	0.16	. .	0.31	. .	0.05	0.66	. .	. .	. .	. .	*	0.16	. .	0.36
230	Shelton	T	0.30	. .	. .	. .	0.48	. .	. .	. .	. .	0.23	T	0.20	0.77
251	Albany . . N.Y. .	0.03	T	. .	. .	0.02	0.90	. .	. .	. .	. .	0.10	0.05	0.05	0.22
258	Poughkeepsie . . .	0.13	. .	. .	. .	. .	0.15	. .	. .	. .	. .	0.06	0.09	. .	0.50
253	Carmel	0.24	. .	. .	. .	0.08	0.51	. .	. .	. .	. .	0.21	. .	. .	0.40
255	New York	0.27	0.04	0.40	. .	0.03	0.63	. .	. .	. .	. .	0.43	0.01	0.06	0.50
256	Setauket	0.36	0.08	0.12	. .	T	0.80	. .	. .	. .	. .	0.26	T		0.50

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.75	0.18	0.02	. .	. .	. .	1.26	. .	0.69	. .	. .	1.96	. .	0.11	0.42	0.08	. .
4	0.53	0.25	0.04	. .	. .	. .	0.56	. .	0.66	. .	. .	0.56	0.01	0.16	0.39	0.08	. .
2	*	1.29	. .	. .	. .	. .	*	*	1.03	. .	*	1.19	. .	0.28	*	0.56	. .
5	*	0.55	. .	. .	. .	. .	0.54	*	0.31	. .	*	0.38	. .	*	0.29	. .	. .
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	0.63	0.01	. .	0.05	. .	. .	0.37	0.40	0.44	. .	0.15	0.41	. .	0.62	0.23	0.17	. .
12	0.66	0.03	. .	T	. .	. .	0.17	0.50	0.74	. .	T	0.42	. .	0.28	0.13	0.12	. .
51	0.47	. .	0.07	. .	. .	. .	0.26	. .	. .	. .	0.37	. .	. .	. .	0.50	. .	. .
34	0.78	. .	. .	. .	. .	. .	0.15	. .	0.37	. .	0.21	. .	. .	*	0.70	. .	. .
47	*	0.35	. .	. .	. .	. .	T	*	0.31	. .	*	0.10	. .	*	*	0.50	. .
49	0.61	. .	0.05	. .	. .	. .	0.27	0.33	0.30	. .	0.17	0.30	. .	0.70	0.17	. .	. .
39	0.55	. .	. .	T	. .	. .	0.16	0.59	0.10	. .	. .	T	. .	1.06	T	T	. .
40	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	0.56	. .	. .	. .	0.04	. .	0.11	1.35	. .	. .	0.40	. .	. .	0.53	0.30	. .	. .
52	0.73	. .	. .	. .	0.10	. .	0.17	*	1.46	. .	*	0.66	. .	*	0.80	. .	. .
45	0.64	. .	. .	. .	0.26	. .	0.06	1.04	0.44	. .	0.26	0.14	. .	0.63	0.07	. .	T
81	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	0.60	. .	. .	0.30	. .	. .	0.17	0.10	0.09	. .	*	0.25	. .	*	0.40	0.20	. .
73	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
82	0.13	. .	T	0.03	. .	0.90	0.10	0.10	0.36	. .	T	0.17	0.01	0.62	0.14	0.01	. .
75	0.07	. .	. .	. .	. .	. .	0.14	*	0.56	. .	0.43	. .	. .	*	*	0.91	. .
74	0.06	. .	0.03	0.03	. .	. .	0.24	0.25	0.03	. .	0.07	0.17	. .	0.75	0.16	0.02	. .
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	0.49	T	0.04	0.04	0.14	. .	0.27	0.53	0.81	. .	*	0.95	0.01	0.66	0.24	. .	T
159	*	0.83	. .	. .	0.47	. .	0.05	*	1.66	. .	*	0.34	. .	0.99	*	0.08	. .
149	0.71	0.04	. .	. .	0.40	. .	0.07	0.78	0.68	. .	0.01	0.38	. .	0.76	0.20	T	. .
104	0.94	. .	. .	. .	0.50	. .	0.04	0.81	0.70	. .	T	0.27	. .	1.28	0.09	. .	T
122	1.44	. .	. .	. .	0.54	. .	*	0.06	2.19	. .	*	0.35	. .	*	0.80	. .	*
120	0.59	. .	. .	. .	0.45	. .	0.07	0.82	0.85	. .	0.13	0.34	. .	0·48	0.09	. .	. .
123	0.69	0.03	. .	. .	0.46	. .	0.20	0.80	0.98	. .	. .	0.65	. .	*	0.84	. .	. .
152	0.41	. .	. .	. .	0.41	. .	0.13	1.05	0.61	. .	0.21	. .	. .	1.18	. .	. .	. .
134	0.50	T	T	. .	0.20	. .	0.17	1.00	0.75	. .	0.40	0.20	. .	1.00	0.05	. .	. .
155	0.84	. .	0.02	. .	0.60	. .	T	0.87	0.33	. .	. .	0.24	. .	1.38	0.02	T	. .
146	0.67	0.03	0.11	. .	0.20	0.20	0.08	0.95	0.45	. .	. .	0.17	. .	1.10	0.01	. .	. .
114	1.05	. .	. .	. .	0.21	. .	0.08	*	1.88	. .	. .	0.21	. .	1.54	. .	. .	. .
153	*	1.68	. .	. .	*	1.78	*	*	2.22	. .	. .	0.40	. .	*	1.54	0.28	. .
148	1.31	. .	. .	. .	0.38	. .	0.05	*	1.80	. .	. .	0.63	. .	1.63	0.01	. .	0.20
163	1.66	. .	. .	. .	0.28	. .	. .	1.24	0.63	. .	. .	0.35	. .	1.53	0.08	. .	
202	1.46	. .	. .	. .	0.48	. .	0.05	*	2.11	. .	. .	0.38	. .	1.94	0.01	. .	0.15
207	*	1.45	. .	. .	0.80	. .	0.06	*	1.62	. .	. .	0.28	. .	1.58	T	. .	0.10
201	0.85	0.01	0.01	. .	0.58	. .	0.04	0.60	0 30	. .	. .	0.22	. .	0.94	0.04	0.04	T
233	0.32	. .	. .	. .	0.45	. .	0.30	1.00	0.55	. .	*	0.41	. .	1.87	0.03	. .	*
229	0.76	. .	. .	. .	0.73	. .	0.04	1.37	0.50	. .	T	0.35	. .	1.60	0.10	0.02	. .
224	0.58	. .	. .	. .	0.78	. .	0.12	1.29	0.62	. .	0.10	0.40	. .	1.03	0.07	. .	. .
234	0.67	. .	. .	. .	. .	0.45	0.08	0.80	0.91	. .	*	0.43	. .	1.06	0.06	. .	*
235	0.54	T	. .	. .	0.55	. .	0.20	0.88	0.68	. .	*	0.48	. .	1.01	0.04	T	T
230	0.20	T	. .	. .	0.30	0.50	0.08	2.26	. .	. .	0.50	. .	0.25	0.95	T	T	0.20
251	0.16	0.03	. .	. .	0.15	. .	0.17	0.82	0.30	. .	0.12	0.11	0.01	0.46	0.02	. .	. .
258	0.33	0.02	. .	. .	0.61	. .	0.26	1.05	0.48	. .	0.32	0.15	. .	0.50	T	T	0.09
253	0.48	. .	. .	. .	0.56	. .	0.32	0.86	0.89	. .	*	0.36	. .	0.68	. .	. .	. .
255	0.72	. .	T	. .	0.88	. .	0.15	1.04	0.32	. .	0.02	0.13	. .	0.91	0.01	0.07	0.05
256	0.84	T	. .	. .	0.60	. .	0.06	0.88	0.40	. .	T	0.27	. .	1.30	T	0.06	0.03

T Trace, when precipitation is less than 0.01 inch.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	0.05	. .	. .	0.40	0.64	. .	. .	. .	0.05	0.22	0.06	. .	. .	0.08
4	Eastport . . Me.	0.11	. .	. .	0.10	0.37	. .	. .	. .	0.09	0.12	. .	. .	. .	0.16
2	Bar Harbor	. .	. .	. .	*	0.25	. .	T	. .	0.46	. .	. .	. .	. .	T
5	Fairfield	. .	. .	. .	*	0.63	. .	0.05	*	*	0.43	. .	. .	. .	. .
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	*	0.47	. .	0.16	*	*	0.65	. .	. .	. .	. .
8	Lewiston	. .	. .	. .	0.38	0.10	. .	0.39	0.08	0.58	0.05	. .	. .	. .	. .
12	Portland	. .	. .	. .	0.26	0.15	. .	0.46	. .	0.70	0.04	. .	. .	. .	. .
51	Stratford, N.H.	. .	. .	. .	0.60	. .	0.22	. .	. .	. .	. .	. .	. .	. .	. .
34	Berlin Mills	. .	. .	. .	0.47	. .	. .	0.32	*	0.25	. .	. .	. .	. .	0.15
47	North Conway	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	. .	. .	0.27	. .	. .	0.42	0.14	0.48	0.03	. .	. .	. .	*
39	Hanover	. .	. .	. .	0.27	. .	. .	0.42	*	0.17	. .	. .	. .	. .	T
40	Lake Village	. .	. .	. .	0.50	. .	. .	0.44	*	0.57	. .	. .	. .	. .	. .
37	Concord	. .	. .	. .	0.33	. .	. .	0.34	0.15	0.39	. .	. .	. .	. .	0.03
52	Walpole	. .	. .	. .	0.22	. .	. .	0.69	*	0.38	. .	. .	. .	. .	0.05
45	Nashua	0.02	. .	. .	0.08	. .	. .	0.23	0.18	0.33	T	. .	. .	. .	0.08
81	Newport . . Vt.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh	. .	. .	. .	0.73	0.02	*	0.33	. .	. .	. .	. .	. .	. .	0.18
73	Burlington	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
82	Northfield	0.01	. .	. .	0.32	0.10	. .	0.47	0.12	0.10	0.01	T	. .	. .	0.06
75	Cornwall	. .	. .	. .	0.56	. .	. .	0.66	0.05	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	. .	. .	0.54	0.04	. .	0.36	0.08	0.13	. .	. .	. .	. .	0.32
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	0.01	. .	. .	0.38	. .	. .	0.19	0.12	0.31	. .	. .	. .	. .	. .
159	Salem . . Mass.	0.08	. .	. .	*	0.18	. .	0.31	*	0.71	. .	. .	. .	. .	. .
149	Newburyport	0.04	. .	. .	0.18	0.04	. .	0.20	0.15	0.44	T	. .	. .	. .	T
104	Blue Hill	0.20	. .	. .	0.44	0.02	. .	0.39	0.16	0.54	0.01	. .	. .	T	T
122	Framingham	. .	. .	. .	*	0.18	. .	0.41	*	*	0.90	. .	. .	. .	. .
120	Fitchburg	0.03	. .	. .	0.16	. .	. .	0.32	0.30	0.31	0.01	. .	. .	. .	0.06
123	Gilbertville	0.07	. .	. .	0.51	0.03	. .	0.36	0.37	0.45	0.02	. .	. .	. .	. .
152	Northampton	. .	0.06	. .	0.39	. .	. .	. .	0.58	0.42	. .	. .	. .	. .	. .
134	Ludlow	0.10	. .	. .	0.29	. .	. .	0.10	0.28	0.46	. .	. .	. .	. .	. .
155	Provincetown	0.21	. .	. .	0.70	0.04	. .	0.34	0.11	0.10	0.02	. .	. .	. .	. .
146	Nantucket	0.03	. .	. .	0.10	0.14	. .	0.25	0.02	0.20	0.03	. .	. .	. .	. .
114	Cotuit	0.29	. .	. .	0.46	. .	. .	0.26	. .	0.25	.	. .	. .	. .	. .
153	Plymouth	T	. .	. .	*	1.06	. .	*	0.35	. .	0.34	. .	. .	. .	. .
148	New Bedford	. .	. .	. .	*	1.07	. .	0.21	*	0.32	. .	. .	. .	. .	. .
163	Taunton	0.22	. .	. .	1.05	0.05	. .	0.34	0.13	0.18	. .	. .	. .	. .	. .
202	Bristol . . . R. I.	0.06	. .	. .	*	1.07	. .	0.19	*	0.33	0.01	. .	. .	. .	. .
207	Providence	0.11	. .	. .	*	0.84	. .	0.21	*	0.32	. .	. .	. .	. .	. .
201	Block Island	1.08	. .	. .	0.25	0.07	. .	0.23	0.10	0.16	. .	. .	. .	. .	. .
233	Voluntown Conn.	0.22	. .	. .	1.50	. .	. .	0.37	0.37	0.20	. .	. .	. .	. .	. .
229	New London	0.50	. .	. .	1.30	. .	. .	0.26	0.30	0.42	0.01	. .	. .	. .	. .
224	Hartford	0.08	. .	. .	0.28	. .	. .	0.37	0.30	0.87	. .	. .	. .	. .	0.03
234	Wallingford	0.21	. .	. .	0.30	. .	. .	0.25	*	1.00	. .	. .	. .	. .	. .
235	Waterbury	0.18	. .	. .	0.42	. .	. .	T	*	0.99	. .	. .	. .	. .	T
230	Shelton	. .	. .	. .	0.42	. .	. .	0.20	0.64	0.40	. .	. .	. .	. .	. .
251	Albany . . N.Y.	. .	. .	. .	0.54	0.04	. .	0.27	0.05	0.09	. .	. .	. .	. .	T
258	Poughkeepsie	. .	. .	. .	. .	. .	0.24	. .	0.10	0.65	. .	. .	. .	T	. .
253	Carmel	0.19	. .	. .	0.47	. .	. .	0.32	0.23	1.01	. .	. .	. .	. .	. .
255	New York	0.21	. .	. .	0.58	0.03	. .	0.18	0.10	0.42	0.02	. .	. .	0.06	T
256	Setauket	0.14	. .	. .	0.80	. .	. .	0.12	0.26	0.45	. .	. .	. .	. .	0.03

*Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.16	. .	. .	. .	0.06	. .	. .	. .	. .	. .	. .	. .	0.86	. .	. .	. .	
4	0.09	. .	. .	. .	T	. .	. .	. .	. .	0.01	. .	. .	0.24	0.06	. .	. .	
2	. .	. .	T	. .	. .	. .	. .	. .	0.02	. .	. .	. .	*	1.09	. .	. .	
5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.60	. .	. .	. .	
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	T	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.60	. .	. .	. .	
8	. .	. .	. .	. .	. .	. .	. .	. .	0.01	. .	. .	. .	0.58	. .	. .	. .	
12	0.01	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	T	0.87	0.01	. .	0.01	
51	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	*	0.65	. .	. .	. .	
84	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.75	. .	. .	. .	
47	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
49	0.07	. .	. .	. .	. .	. .	. .	. .	0.02	. .	. .	0.13	0.60	. .	0.03	. .	
39	. .	. .	T	T	. .	. .	. .	. .	. .	. .	. .	*	0.71	. .	. .	T	
40	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.48	. .	0.02	. .	
37	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.62	. .	. .	0.02	
52	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.44	. .	. .	. .	
45	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.05	0.45	T	. .	T	
81	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
78	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	*	0.35	. .	. .	0.10	
73	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	0.02	. .	0.08	. .	. .	. .	. .	. .	T	. .	. .	0.05	0.57	0.02	. .	0.01	
75	. .	. .	. .	. .	0.01	. .	. .	. .	. .	. .	. .	*	0.96	. .	. .	. .	
74	. .	. .	0.12	T	. .	. .	. .	. .	. .	. .	. .	0.20	0.86	0.03	. .	. .	
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
77	. .	. .	. .	. .	. .	. .	. .	. .	T	0.02	0.10	*	0.66	. .	. .	. .	
159	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.30	. .	*	0.83	. .	. .	
149	0.03	. .	. .	. .	. .	. .	. .	. .	T	T	0.01	T	0.65	0.04	. .	T	
104	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.12	0.29	0.06	1.50	0.01	. .	. .	
122	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.21	*	0.93	. .	. .	. .	
120	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.04	0.04	0.60	0.01	. .	. .	
123	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.04	0.20	0.10	0.78	0.07	. .	T	
152	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.05	0.06	0.40	. .	. .	. .	
134	. .	. .	. .	. .	T	. .	. .	. .	. .	T	0.25	0.05	0.65	0.05	. .	. .	
155	T	. .	. .	T	. .	. .	. .	. .	*	0.04	0.13	*	1.42	0.03	. .	. .	
146	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.02	T	0.12	0.26	. .	. .	
114	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.05	0.16	. .	1.14	0.19	. .	. .	
153	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.30	*	*	1.45	. .	. .	
148	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.16	0.16	*	*	1.73	. .	. .	
163	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.25	*	1.70	0.04	. .	. .	
202	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.39	*	1.43	0.06	. .	. .	
207	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.30	*	*	1.81	. .	. .	
201	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.12	T	1.27	0.09	T	. .	
233	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.55	0.25	T	1.92	. .	. .	. .	
229	0.05	. .	. .	. .	. .	. .	. .	. .	. .	0.08	0.16	0.10	1.58	0.10	. .	. .	
224	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.03	0.30	T	0.74	. .	. .	. .	
234	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.16	*	0.75	. .	. .	. .	
235	. .	. .	. .	. .	. .	. .	. .	. .	T	*	0.34	*	*	0.50	. .	. .	
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.44	0.08	*	0.44	. .	. .	. .	
251	. .	. .	. .	. .	. .	. .	. .	. .	T	0.01	0.10	0.13	0.13	0.28	. .	. .	
258	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.14	0.19	0.06	0.21	. .	. .	. .	
253	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.49	*	0.25	. .	. .	. .	
255	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.10	0.46	0.23	0.17	0.02	. .	. .	
256	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.02	0.18	0.11	1.29	. .	. .	. .	

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	0.09	0.18	. .	0.49	1.80	0.38	0.17	0.17	0.16	0.24	0.15	. .	. .	0.95
4	Eastport . . Me.	0.06	0.16	. .	0.53	1.32	0.22	0.24	0.22	0.44	0.23	0.24	. .	. .	0.25
2	Bar Harbor	0.11	. .	. .	*	2.25	1.28	. .	0.46	. .	0.44	. .	. .	. .	0.12
5	Fairfield	0.56	. .	. .	*	*	2.72	. .	*	0.24	*	0.33	. .	0.10	0.36
6	Gardiner	0.45	. .	. .	*	*	*	2.70	0.25	. .	0.42	. .	. .	T	0.10
7	Kent's Hill	0.36	. .	. .	0.60	0.70	. .	*	1.00	0.04	. .	0.60	. .	0.03	0.75
8	Lewiston	0.51	. .	. .	0.26	0.96	0.76	0.01	0.31	0.03	0.35	0.15	. .	0.04	0.58
12	Portland	0.30	. .	. .	0.21	1.46	0.48	. .	0.18	0.04	0.26	0.03	. .	T	0.05
51	Stratford, N.H.	0.25	. .	. .	*	0.79	0.94	. .	. .	*	0.63	. .	. .	*	1.00
34	Berlin Mills	0.15	. .	. .	*	0.52	0.72	. .	. .	*	0.55	. .	0.50	*	0.70
47	North Conway	. .	. .	. .	*	*	2.08	. .	. .	. .	*	0.35	. .	*	*
49	Plymouth	0.25	. .	. .	0.43	0.51	0.47	. .	. .	. .	0.78	. .	. .	0.13	0.58
39	Hanover	0.16	. .	. .	0.06	0.41	0.82	. .	. .	. .	0.40	. .	. .	T	0.33
40	Lake Village	0.26	. .	. .	*	1.47	0.40	. .	. .	. .	0.49	. .	. .	*	1.09
37	Concord	0.10	. .	0.01	0.02	0.82	0.53	. .	0.05	. .	0.15	0.23	. .	1.01	0.55
52	Walpole	0.20	. .	. .	*	0.76	0.72	. .	. .	. .	*	0.25	. .	0.21	*
45	Nashua	0.12	. .	T	0.37	0.57	0.64	. .	0.14	. .	0.05	0.32	. .	. .	0.47
81	Newport . . Vt.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh	. .	0.70	. .	0.85	*	0.74	0.10	. .	*	0.71	. .	. .	0.81	0.18
73	Burlington	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
82	Northfield	0.10	. .	. .	0.35	0.25	0.23	0.03	. .	T	0.40	0.04	. .	0.49	0.46
75	Cornwall	. .	. .	. .	*	1.56	. .	. .	. .	0.21	0.25	. .	. .	0.44	0.81
74	Chelsea	0.08	. .	. .	0.46	0.37	0.72	0.02	. .	. .	0.28	. .	0.04	0.35	0.57
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	0.12	. .	. .	0.10	0.74	0.73	. .	. .	. .	0.14	0.35	. .	. .	0.43
159	Salem . . Mass.	*	0.16	. .	*	0.98	1.04	. .	0.36	. .	0.02	0.24	. .	. .	0.05
149	Newburyport	0.28	. .	. .	0.05	0.95	0.66	. .	0.40	T	0.04	0.28	. .	. .	0.08
104	Blue Hill	0.21	0.04	. .	0.41	0.83	1.03	0.01	0.29	0.02	0.04	0.31	. .	. .	T
122	Framingham	0.18	. .	. .	*	0.89	0.64	. .	0.21	. .	*	0.31	. .	0.08	*
120	Fitchburg	0.08	. .	. .	0.23	0.45	0.70	. .	0.09	. .	0.04	0.37	. .	. .	0.74
123	Gilbertville	0.06	. .	. .	0.23	0.87	0.82	. .	0.03	. .	0.19	0.49	. .	. .	0.12
152	Northampton	. .	. .	. .	0.13	0.99	0.69	. .	. .	. .	. .	0.42	. .	. .	0.04
134	Ludlow	0.10	0.05	. .	0.10	0.60	0.79	. .	0.04	. .	0.15	0.50	. .	*	0.30
155	Provincetown	*	0.21	. .	*	0.58	0.30	*	0.12	0.04	0.02	0.35	. .	. .	. .
146	Nantucket	. .	0.05	. .	0.04	0.54	. .	. .	0.22	0.12	T	0.20	. .	. .	. .
114	Cotuit	. .	0.10	. .	. .	1.15	0.14	. .	0.22	. .	. .	0.32	. .	. .	. .
153	Plymouth	*	0.24	. .	. .	0.99	*	1.33	*	0.23	. .	0.45	. .	. .	. .
148	New Bedford	0.19	. .	. .	0.83	0.53	1.97	. .	0.28	. .	*	0.26	0.01	. .	0.14
163	Taunton	*	0.07	. .	0.55	1.00	1.23	. .	0.24	0.02	0 02	0.26	. .	. .	. .
202	Bristol. . . R. I.	*	0.43	. .	*	0.95	1.37	. .	*	0.13	*	0.27	. .	. .	. .
207	Providence	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
201	Block Island	T	0.32	T	0.24	0.08	1.36	0.02	0.44	0.06	0.04	0.12	. .	. .	. .
233	Voluntown Conn.	T	. .	. .	0.33	0.46	1.55	. .	0.15	. .	T	0.20	. .	. .	T
229	New London	0.12	0.17	. .	0.47	0.25	1.45	. .	0.15	. .	0.02	0.33	. .	. .	. .
224	Hartford	0.13	. .	. .	0.30	0.43	0.79	. .	0.04	. .	. .	0.20	. .	. .	0.67
234	Wallingford	0.03	. .	. .	0.35	*	1.43	. .	0.06	0.14	T	. .	. .	. .	0.15
235	Waterbury	0.19	. .	. .	*	0.60	0.86	. .	0.02	. .	*	0.32	. .	. .	1.44
230	Shelton	. .	. .	. .	0.71	0.16	0.58	. .	0.10	0.03	0.15	. .	. .	0.16	0.60
251	Albany . . N.Y.	0.21	. .	. .	0.23	0.81	0.44	. .	. .	. .	0.09	0.11	. .	0.04	0.61
258	Poughkeepsie	0.08	. .	. .	0.21	0.49	0.75	. .	. .	. .	0.05	0.45	. .	0.24	0.22
253	Carmel	0.06	. .	. .	*	0.79	1.05	. .	0.03	. .	0.11	0.26	. .	. .	0.21
255	New York	0.44	0.08	. .	0.18	0.26	0.38	. .	0.16	. .	0.02	0.11	. .	. .	0.20
256	Setauket	0.24	. .	. .	0.20	0.26	0.45	. .	0.18	. .	0.02	0.19	. .	. .	0.27

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.79	. .	. .	. .	. .	0.67	0.10	. .	. .	. .	. .	. .	0.38	1.29	. .	. .	. .
4	0.30	0.08	. .	. .	T	0.30	0.24	. .	. .	. .	. .	. .	0.40	0.96	. .	. .	. .
2	0.31	. .	. .	. .	T	0.95	. .	. .	. .	. .	. .	*	*	4.52	*	0.06	0.01
5	0.46	*	0.34	. .	*	*	0.41	. .	. .	. .	. .	*	*	*	2.26	. .	0.01
6	. .	0.40	T	. .	T	0.49	. .	. .	. .	. .	. .	*	*	*	2.50	0.03	. .
7	*	0.29	0.04	. .	0.11	0.46	. .	. .	. .	. .	0.06	*	*	1.90	T	T	. .
8	0.54	0.60	0.03	. .	0.02	0.34	. .	. .	. .	. .	. .	0.08	1.55	0.38	0.01	. .	T
12	0.35	0.32	0.02	. .	. .	0.21	T	. .	. .	. .	. .	0.10	1.93	0.15	0.01	. .	. .
51	. .	0.27	0.13	. .	1.00	1.23	. .	. .	. .	. .	. .	*	0.76	. .	. .	. .	. .
34	. .	0.15	0.13	. .	0.56	0.74	. .	. .	. .	. .	. .	. .	0.75	. .	0.10	. .	. .
47	0.41	. .	. .	. .	*	0.95	. .	. .	. .	. .	. .	*	1.53	. .	. .	. .	. .
49	. .	0.03	0.03	. .	0.34	0.54	. .	. .	. .	. .	. .	0.39	1.76	. .	. .	. .	. .
39	0.04	T	0.04	. .	0.84	0.43	. .	. .	. .	. .	. .	0.39	1.10	T	. .	. .	. .
40	0.03	. .	0.04	. .	0.13	0.43	. .	. .	. .	. .	. .	*	2.05	. .	. .	. .	. .
37	0.10	T	0.02	. .	. .	0.35	. .	. .	. .	. .	. .	*	2.03	0.08	. .	. .	. .
52	0.26	T	T	. .	*	0.57	. .	. .	. .	. .	. .	*	1.79	. .	. .	. .	. .
45	0.38	0.21	. .	. .	. .	0.12	. .	. .	. .	. .	. .	0.29	1.13	0.07	. .	. .	. .
81	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	. .	0.50	0.14	. .	0.74	0.60	. .	. .	. .	. .	. .	0.78	0.44	. .	. .	. .	. .
73	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
82	0.08	0.03	T	0.02	0.29	0.94	0.04	. .	. .	. .	. .	0.16	0.36	0.05	. .	. .	. .
75	. .	0.10	0.13	. .	0.39	0.99	. .	. .	. .	. .	. .	*	0.52	0.09	. .	. .	. .
74	. .	0.08	0.04	. .	0.48	0.84	0.03	. .	. .	. .	. .	0.40	0.53	0.06	T	. .	. .
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	0.24	T	0.02	. .	0.21	0.80	. .	. .	. .	. .	. .	0.55	1.28	0.16	. .	. .	. .
159	*	0.63	. .	. .	. .	0.29	. .	. .	. .	. .	. .	. .	*	1.57	. .	. .	. .
149	0.61	0.20	T	. .	. .	0.50	. .	. .	. .	. .	. .	T	1.56	0.46	0.01	T	. .
104	0.63	0.01	0.01	. .	. .	0.59	. .	. .	. .	. .	. .	0.01	1.10	0.23	T	. .	. .
122	0.77	0.05	. .	. .	. .	0.53	. .	. .	. .	. .	. .	*	1.10	0.18	. .	. .	. .
120	0.29	0.25	0.04	. .	0.27	. .	. .	. .	. .	. .	. .	0.26	1.56	0.17	. .	. .	. .
123	0.56	0.10	0.11	. .	. .	0.43	. .	. .	. .	. .	. .	0.42	1.66	. .	. .	T	. .
152	0.64	. .	. .	. .	. .	0.50	. .	. .	. .	. .	. .	0.77	1.25	. .	. .	. .	. .
134	0.50	0.08	0.05	. .	. .	0.60	. .	. .	. .	. .	. .	0.30	1.30	0.10	. .	T	T
155	0.30	. .	. .	. .	*	0.22	. .	. .	. .	. .	. .	*	0.79	0.06	T	. .	. .
146	0.43	0.01	. .	. .	. .	. .	T	T	T	. .	. .	. .	0.62	0.13	T	0.01	. .
114	0.34	. .	. .	. .	. .	0.15	. .	. .	. .	. .	. .	. .	0.87	0.24	. .	. .	T
153	. .	0.45	. .	. .	. .	0.96	. .	. .	. .	. .	. .	*	*	0.72	T	. .	. .
148	0.14	. .	. .	. .	0.11	0.78	. .	. .	. .	. .	. .	*	1.15	0.11	0.02	. .	. .
163	0.38	0.02	. .	. .	. .	0.60	. .	T	. .	. .	. .	T	1.32	0.05	. .	. .	. .
202	0.43	0.09	. .	. .	. .	0.73	. .	. .	. .	. .	. .	*	0.99	0.09	. .	. .	. .
207	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
201	0.33	0.05	. .	. .	. .	0.38	. .	. .	. .	. .	. .	0.01	0.41	T	. .	. .	. .
233	0.45	. .	. .	. .	. .	0.80	. .	. .	. .	. .	. .	0.11	0.60	. .	. .	. .	. .
229	0.50	0.03	. .	T	. .	0.30	. .	. .	. .	. .	. .	0.12	0.58	0.02	. .	. .	T
224	0.82	0.18	0.03	. .	. .	0.75	. .	. .	. .	. .	. .	0.52	1.08	T	. .	*	0.08
234	0.60	0.23	0.10	. .	. .	0.93	. .	. .	. .	. .	. .	1.05	0.15	. .	. .	. .	. .
235	0.29	0.38	T	. .	. .	0.74	. .	. .	. .	. .	. .	*	1.08	. .	. .	. .	. .
230	0.25	0.27	. .	. .	. .	0.52	. .	. .	. .	. .	. .	1.57	0.04	. .	. .	. .	. .
251	0.01	0.09	T	. .	0.62	0.84	. .	. .	T	0.01	. .	0.75	0.33	T	. .	. .	. .
258	0.16	0.05	. .	. .	T	0.45	. .	. .	. .	. .	. .	0.52	1.15	. .	. .	. .	. .
253	1.10	0.33	. .	. .	. .	1.04	. .	. .	. .	. .	. .	*	1.08	. .	. .	. .	. .
255	0.23	0.04	. .	. .	0.06	0.28	. .	. .	T	. .	. .	0.16	0.51	. .	. .	T	. .
256	0.57	T	. .	. .	. .	0.50	. .	. .	. .	. .	. .	0.12	0.50	. .	. .	. .	. .

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	. .	. .	. .	. .	0.19	0.23	0.04	. .	0.16	. .	. .	0.24
4	Eastport . . Me. .	0.04	. .	. .	. .	0.16	. .	0.32	0.18	T	. .	T	. .	0.18	0.17
2	Bar Harbor	. .	. .	. .	*	0.48	. .	0.31	. .	. .	. .	*	0.15	*	1.28
5	Fairfield	. .	. .	. .	*	0.52	. .	0.26	. .	. .	. .	. .	*	*	0.76
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	0.83	0.03	*	0.65	. .	. .	. .	*	*	1.72	0.11
8	Lewiston	. .	. .	. .	0.80	0.04	0.10	0.06	. .	. .	. .	0.03	0.30	1.00	0.09
12	Portland	. .	. .	. .	0.70	0.14	T	0.10	. .	. .	. .	T	0.73	1.32	0.04
51	Stratford, N.H. .	. .	. .	. .	0.88	0.04	0.06	. .	. .	. .	. .	0.50	*	0.15	. .
34	Berlin Mills	. .	. .	. .	0.96	0.05	*	0.08	. .	. .	. .	. .	*	0.69	. .
47	North Conway . .	. .	. .	. .	*	*	*	1.13	. .	. .	. .	. .	*	*	1.88
49	Plymouth	. .	. .	. .	0.46	0.84	0.18	. .	. .	. .	. .	0.05	0.17	0.37	0.10
39	Hanover	. .	. .	. .	0.44	1.32	0.26	T	. .	. .	. .	. .	0.23	0.08	0.08
40	Lake Village . . .	. .	. .	. .	*	1.03	. .	0.09	. .	. .	. .	. .	*	1.09	. .
37	Concord	. .	. .	. .	0.15	1.13	0.14	0.09	. .	. .	. .	. .	0.31	0.60	0.05
52	Walpole	. .	. .	. .	*	2.31	0.16	T	. .	. .	. .	. .	*	*	0.56
45	Nashua	. .	. .	. .	0.33	0.89	0.25	T	. .	. .	. .	T	0.25	1.34	0.01
78	Lunenburgh, Vt. .	. .	. .	. .	0.92	0.15	0.15	. .	. .	. .	. .	. .	0.80	0.30	. .
73	Burlington	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
82	Northfield	. .	. .	. .	0.53	1.14	0.43	0.12	0.02	. .	. .	0.03	0.16	0.09	0.04
75	Cornwall	. .	. .	. .	0.11	1.02	0.90	. .	. .	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	. .	. .	0.34	1.43	0.38	0.23	. .	. .	. .	0.05	0.18	0.18	T
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	. .	. .	0.29	0.48	0.19	0.15	. .	. .	. .	0.25	0.35	0.20	0.16
159	Salem . . Mass. .	. .	. .	. .	0.39	0.52	0.18	0.38	. .	. .	. .	0.86	0.29	1.15	0.02
149	Newburyport . . .	. .	. .	. .	0.21	0.53	0.15	0.23	. .	. .	. .	0.12	0.20	1.44	0.04
104	Blue Hill	. .	. .	. .	0.11	0.19	0.14	0.14	. .	. .	. .	T	0.09	1.07	0.01
122	Framingham . . .	. .	. .	. .	0.25	*	*	0.45	. .	. .	. .	. .	*	*	1.10
120	Fitchburg	. .	. .	. .	0.35	0.47	0.27	0.04	. .	. .	. .	0.25	0.14	0.41	. .
123	Gilbertville	. .	. .	. .	0.51	0.17	1.17	0.07	. .	. .	. .	. .	0.09	0.06	. .
152	Northampton . . .	. .	. .	. .	0.19	0.58	0.69	0.02	. .	. .	. .	. .	0.20	0.17	0.10
134	Ludlow	. .	. .	0.05	0.55	0.62	0.70	0.05	. .	. .	. .	. .	0.10	. .	0.10
155	Provincetown . . .	. .	. .	. .	0.15	. .	*	0.85	. .	. .	. .	*	0.25	2.00	0.01
146	Nantucket	. .	. .	. .	0.06	0.02	0.01	0.06	. .	. .	. .	. .	0.14	2.20	0.15
114	Cotuit	. .	. .	. .	0.07	0.05	0.13	0.38	. .	. .	. .	. .	0.06	2.49	0.07
153	Plymouth	. .	. .	. .	0.23	*	*	0.76	. .	. .	. .	. .	*	*	2.19
148	New Bedford . . .	. .	. .	0.06	*	*	1.29	. .	. .	. .	. .	. .	*	3.77	0.02
163	Taunton	. .	. .	0.06	0.28	0.02	0.92	T	. .	. .	. .	T	0.07	2.05	0.07
202	Bristol . . . R. I. .	. .	. .	*	0.08	0.26	0.38	1.00	. .	. .	. .	. .	0.09	2.52	0.18
207	Providence	. .	. .	*	0.20	*	0.49	0.43	. .	. .	. .	. .	*	*	1.07
201	Block Island	. .	. .	. .	. .	. .	0.34	0.27	. .	. .	. .	. .	0.06	0.44	0.02
233	Voluntown Conn.	. .	. .	. .	T	0.12	*	1.44	. .	. .	. .	. .	0.37	0.90	0.15
229	New London . . .	. .	. .	T	T	. .	0.82	0.85	. .	. .	. .	0.12	0.13	0.56	0.05
224	Hartford	. .	. .	T	0.15	0.21	1.46	0.16	. .	. .	. .	0.43	0.06	0.12	T
234	Wallingford	. .	. .	. .	T	1.10	0.62	. .	. .	. .	0.02	0.70	T	0.19	0.28
235	Waterbury	. .	. .	. .	. .	. .	1.86	. .	. .	. .	0.10	. .	0.31	0.07	0.16
230	Shelton	. .	. .	0.03	. .	1.22	0.62	. .	. .	. .	. .	0.87	0.18	0.10	0.01
251	Albany . . N.Y. .	. .	. .	. .	0.20	1.42	0.44	0.02	. .	. .	. .	0.09	0.01	0.04	0.19
258	Poughkeepsie . . .	. .	. .	T	.	0.19	0.86	. .	. .	. .	0.16	. .	0.50	*	0.24
253	Carmel	. .	. .	T	0.37	. .	0.92	. .	. .	. .	. .	0.11	0.55	0.12	0.44
255	New York	. .	. .	. .	. .	0.15	1.47	. .	. .	. .	. .	0.03	0.16	0.12	1.17
256	Setauket	. .	. .	. .	0.02	. .	1.80	. .	. .	. .	. .	T	0.11	0.24	0.16

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1	. .	. .	. .	0.25	. .	. .	. .	0.02	0.02	0.15	0.84	0.44	0.11	0.03	. .	0.06	
4	. .	. .	. .	0.14	. .	. .	. .	0.02	0.06	0.13	1.08	0.14	0.11	0.04	. .	T	
2	. .	. .	. .	0.02	0.04	T	. .	. .	*	*	*	*	*	0.87	T	T	
5	. .	. .	. .	. .	. .	. .	. .	*	0.03	0.06	1.21	0.04	0.03	. .	. .	0.06	
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	. .	. .	. .	T	. .	. .	T	. .	. .	*	*	1.22	0.08	. .	. .	. .	
8	. .	. .	. .	T	. .	. .	. .	. .	0.01	0.73	0.24	0.30	0.01	T	. .	. .	
12	. .	. .	. .	. .	. .	. .	. .	. .	T	0.27	0.88	0.35	T	T	. .	. .	
51	. .	. .	. .	. .	. .	. .	. .	0.26	0.73	*	0.96	0.30	. .	. .	. .	. .	
34	. .	. .	. .	. .	. .	. .	. .	0.11	0.73	1.03	0.12	0.47	0.05	. .	. .	. .	
47	. .	. .	. .	. .	. .	. .	. .	. .	0.20	*	1.00	. .	. .	. .	. .	. .	
49	0.10	. .	. .	. .	. .	. .	. .	. .	. .	0.15	0.53	. .	. .	. .	. .	. .	
39	. .	. .	. .	. .	. .	. .	. .	. .	0.08	0.04	0.10	. .	. .	. .	. .	. .	
40	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.50	. .	. .	. .	. .	. .	. .	
37	0.01	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.08	. .	. .	. .	. .	. .	
52	0.24	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.12	. .	. .	. .	. .	. .	
45	T	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.32	. .	T	. .	. .	. .	
78	. .	. .	. .	. .	. .	. .	. .	0.12	0.57	0.75	0.44	0.22	0.15	. .	. .	. .	
73	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
82	. .	T	. .	. .	T	. .	. .	. .	. .	0.06	0.21	. .	0.01	. .	. .	. .	
75	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.10	0.35	. .	0.02	. .	. .	. .	
74	. .	. .	. .	. .	T	. .	. .	. .	0.03	0.10	0.15	. .	0.04	. .	. .	. .	
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
77	0.15	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.12	. .	. .	. .	. .	. .	
159	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.42	0.10	. .	. .	. .	. .	
149	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.36	0.15	. .	. .	. .	. .	
104	. .	. .	. .	. .	T	. .	T	. .	. .	. .	0.10	. .	T	. .	. .	. .	
122	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.06	. .	0.11	. .	. .	. .	
120	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.03	. .	. .	. .	. .	. .	
123	0.03	. .	. .	. .	. .	. .	. .	0.07	. .	. .	. .	. .	. .	. .	. .	. .	
152	0.06	. .	. .	. .	. .	. .	. .	0.03	. .	. .	0.07	. .	. .	. .	. .	. .	
134	0.05	. .	. .	. .	0.35	. .	0.10	0.05	. .	. .	0.15	. .	. .	. .	. .	. .	
155	. .	. .	. .	. .	. .	. .	. .	0.08	. .	. .	0.15	T	. .	. .	. .	. .	
146	0.07	T	. .	. .	0.04	T	. .	0.31	0.01	. .	0.31	T	. .	0.11	T	. .	
114	. .	. .	. .	. .	0.03	. .	. .	0.23	. .	. .	0.15	0.02	. .	T	. .	. .	
153	. .	. .	. .	. .	. .	. .	T	*	0.20	. .	0.03	T	. .	. .	. .	. .	
148	. .	. .	. .	. .	*	0.13	. .	0.11	. .	. .	*	0.15	. .	. .	. .	. .	
163	. .	. .	. .	. .	T	. .	T	0.22	. .	. .	0.08	. .	. .	. .	. .	. .	
202	. .	. .	. .	T	*	0.05	*	0.16	. .	. .	0.44	. .	0.01	. .	. .	. .	
207	. .	. .	. .	. .	0.27	. .	*	0.06	. .	. .	0.16	. .	T	. .	. .	. .	
201	0.03	. .	. .	. .	. .	. .	0.06	0.13	. .	. .	. .	. .	. .	. .	. .	. .	
233	. .	. .	. .	T	T	T	0.03	0.10	. .	. .	0.15	. .	. .	. .	. .	. .	
229	. .	. .	. .	. .	. .	T	0.12	0.18	0.01	. .	. .	. .	0.10	. .	. .	. .	
224	. .	. .	. .	. .	. .	. .	0.05	0.17	0.04	. .	T	. .	T	0.01	. .	. .	
234	. .	. .	. .	. .	. .	. .	0.47	. .	T	0.06	. .	. .	. .	. .	. .	. .	
235	0.06	. .	. .	. .	. .	. .	*	0.53	. .	0.02	0.15	. .	. .	. .	. .	. .	
230	. .	. .	. .	. .	. .	. .	0.43	. .	. .	0.14	. .	. .	. .	. .	. .	. .	
251	0.01	. .	. .	. .	0.24	. .	. .	T	0.01	. .	0.04	0.01	. .	. .	. .	. .	
258	. .	. .	. .	. .	. .	. .	*	0.20	0.30	. .	. .	. .	. .	. .	. .	. .	
253	. .	. .	. .	. .	. .	. .	*	*	0.68	. .	0.07	. .	. .	. .	. .	. .	
255	0.01	. .	. .	. .	. .	. .	0.76	0.32	. .	. .	. .	. .	. .	. .	. .	. .	
256	. .	. .	. .	. .	. .	. .	0.55	0.09	. .	. .	. .	. .	. .	. .	. .	. .	

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	. .	. .	0.05	0.01	0.62	0.01	. .	. .	0.03	. .	. .	. .	. .	. .
4	Eastport . . Me.	. .	. .	0.07	0.02	0.37	. .	. .	. .	0.07	. .	. .	. .	. .	. .
2	Bar Harbor	. .	. .	0.44	. .	0.01	. .	T	0.02	. .	. .	. .	. .	. .	. .
5	Fairfield	0.02	. .	*	1.35	0.16	. .	. .	0.10	. .	. .	. .	. .	. .	. .
6	Gardiner	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	T	. .	*	1.34	0.05	. .	. .	T	T	. .	. .	T	. .	. .
8	Lewiston	T	. .	1.39	0.35	0.19	. .	. .	T	. .	. .	. .	T	. .	. .
12	Portland	. .	. .	0.23	0.17	0.27	. .	. .	. .	. .	. .	. .	. .	. .	. .
51	Stratford, N.H.	. .	*	0.90	. .	. .	. .	. .	*	0.95	. .	. .	. .	. .	. .
34	Berlin Mills	. .	. .	0.96	. .	. .	. .	. .	0.23	. .	. .	. .	. .	. .	*
47	North Conway	. .	*	*	1.96	. .	. .	. .	0.07	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	0.08	1.55	. .	. .	. .	. .	0.13	. .	. .	. .	. .	. .	. .
39	Hanover	. .	. .	0.87	. .	. .	. .	. .	1.05	0.12	. .	. .	. .	0.20	. .
40	Lake Village	. .	. .	*	2.07	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	. .	0.08	0.48	0.21	. .	. .	T	. .	. .	. .	. .	. .	. .	. .
52	Walpole	. .	*	*	2.30	. .	. .	0.11	. .	. .	. .	. .	. .	. .	. .
45	Nashua	. .	0.01	T	0.06	. .	. .	0.04	. .	. .	. .	. .	T	. .	. .
78	Lunenburgh, Vt.	. .	. .	1.10	. .	. .	. .	. .	0.15	0.11	. .	. .	. .	. .	. .
73	Burlington	. .	0.04	0.43	. .	. .	. .	0.07	0.17	. .	. .	. .	. .	. .	. .
82	Northfield	. .	T	0.62	0.01	. .	. .	0.01	0.11	0.12	T	. .	. .	. .	. .
75	Cornwall	. .	0.15	0.10	. .	. .	. .	. .	0.26	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	T	0.57	. .	. .	. .	0.03	0.22	T	. .	. .	. .	. .	. .
79	Manchester	T	. .	0.36	. .	. .	. .	0.04	0.05	. .	. .	. .	. .	0.18	. .
77	Jacksonville	. .	0.02	0.60	0.34	. .	. .	*	0.14	. .	. .	. .	. .	. .	. .
159	Salem . . Mass.	. .	. .	T	T	0.21	. .	0.04	. .	. .	. .	. .	. .	. .	. .
149	Newburyport	. .	. .	0.01	0.27	0.17	. .	T	. .	. .	. .	. .	T	. .	. .
104	Blue Hill	. .	*	0.03	T	T	. .	. .	0.01	. .	. .	. .	. .	. .	. .
122	Framingham	. .	*	0.10	*	0.27	. .	0.03	. .	. .	. .	. .	. .	. .	. .
120	Fitchburg	. .	0.01	0.08	0.09	. .	. .	0.01	. .	. .	. .	. .	. .	. .	. .
123	Gilbertville	. .	T	0.17	0.63	. .	. .	. .	0.10	. .	. .	. .	. .	. .	. .
152	Northampton	. .	. .	0.15	0.46	. .	. .	0.53	. .	. .	. .	. .	. .	. .	. .
134	Ludlow	T	T	0.30	0.35	. .	. .	0.20	. .	. .	. .	. .	. .	. .	. .
155	Provincetown	. .	. .	T	. .	0.25	. .	. .	. .	. .	. .	. .	0.01	. .	. .
146	Nantucket	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.03	T	. .	. .
114	Cotuit	. .	. .	. .	. .	0.04	. .	. .	0.03	. .	. .	. .	0.05	. .	0.07
153	Plymouth	. .	. .	T	. .	. .	. .	T	. .	. .	. .	. .	T	. .	. .
148	New Bedford	. .	. .	0.02	. .	. .	. .	0.07	. .	. .	. .	. .	0.01	. .	. .
163	Taunton	. .	. .	0.07	. .	0.05	. .	. .	0.20	. .	. .	. .	T	. .	. .
202	Bristol . . . R. I.	. .	*	0.02	. .	0.02	. .	. .	0.13	. .	. .	. .	0.01	. .	. .
207	Providence	. .	T	T	0.03	T	. .	0.12	. .	. .	. .	. .	T	. .	. .
201	Block Island	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
233	Voluntown Conn.	. .	0.15	. .	. .	. .	. .	0.02	. .	. .	. .	. .	. .	. .	. .
229	New London	. .	0.01	0.16	T	0.06	. .	. .	0.01	. .	. .	. .	T	. .	. .
224	Hartford	. .	T	0.45	T	0.03	. .	0.01	. .	. .	. .	. .	T	0.48	. .
234	Wallingford	. .	. .	0.61	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.17	. .
235	Waterbury	. .	. .	0.65	*	0.09	. .	. .	. .	. .	. .	. .	. .	T	. .
230	Shelton	. .	0.50	0.02	0.01	. .	. .	. .	. .	. .	. .	. .	0.42	. .	. .
251	Albany . . N.Y.	. .	0.08	0.15	0.26	. .	. .	0.10	0.02	T	. .	. .	. .	0.05	. .
258	Poughkeepsie	. .	T	0.16	0.28	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
253	Carmel	. .	*	0.55	0.14	0.56	. .	. .	. .	. .	. .	. .	. .	. .	. .
255	New York	. .	0.16	0.63	0.08	0.02	. .	. .	. .	. .	. .	. .	. .	0.05	. .
256	Setauket	. .	0.02	0.65	. .	0.29	. .	. .	. .	. .	. .	. .	. .	0.30	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.20	0.24	. .	. .	. .	0.14	. .	. .	. .	. .	0.33	0.37	. .	. .	. .	. .	0.08
4	. .	0.70	. .	0.01	. .	0.08	0.10	. .	. .	. .	0.38	0.08	0.06	. .	. .	. .	0.03
2	T	. .	T	. .	T	0.10	0.01	. .	. .	. .	0.04	0.36	. .	. .	. .	. .	0.01
5	0.01	. .	. .	. .	0.15	0.40	. .	. .	. .	. .	*	1.55	. .	. .	. .	. .	0.07
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	0.15	. .	. .	. .	0.50	0.02	. .	. .	. .	. .	*	1.76	. .	. .	. .	. .	0.05
8	0.40	. .	. .	. .	0.27	0.04	. .	. .	. .	. .	1.65	0.40	. .	. .	. .	. .	0.14
12	. .	. .	. .	. .	0.23	T	. .	. .	. .	. .	1.43	0.80	. .	. .	. .	. .	0.45
51	0.25	. .	. .	0.15	T	. .	. .	. .	. .	. .	0.66	. .	. .	. .	. .	0.03	0.10
34	0.35	0.10	0.50	. .	0.15	. .	. .	. .	. .	. .	0.92	0.50	. .	. .	0.38	. .	. .
47	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	*	1.87	. .	. .	. .	. .	0.82
49	. .	. .	. .	. .	0.08	. .	. .	. .	. .	. .	1.75	0.29	. .	. .	. .	. .	0.58
39	. .	. .	T	. .	0.07	. .	. .	. .	. .	. .	1.06	0.10	. .	. .	. .	. .	0.56
40	0.07	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	2.04	. .	. .	. .	. .	0.40
37	. .	. .	. .	. .	0.05	0.03	. .	. .	. .	0.03	2.10	0.78	. .	. .	. .	. .	0.22
52	. .	. .	. .	. .	T	0.07	. .	. .	. .	*	*	1.43	. .	. .	T	. .	0.35
45	. .	. .	. .	. .	0.26	T	. .	. .	. .	T	1.44	1.59	. .	. .	T	. .	0.45
78	. .	. .	*	0.55	*	0.45	. .	. .	. .	. .	0.80	. .	. .	. .	. .	. .	0.40
73	0.15	0.09	0.07	. .	0.89	0.08	. .	. .	. .	. .	0.23	0.11	. .	. .	T	. .	1.00
82	0.22	0.01	T	0.02	0.39	0.09	0.05	. .	. .	. .	0.38	0.14	. .	. .	0.48	0.16	0.06
75	. .	. .	. .	. .	0.18	. .	. .	. .	. .	. .	0.60	0.45	. .	. .	. .	. .	0.57
74	0.15	. .	T	. .	0.25	T	. .	. .	. .	T	0.65	0.05	T	. .	. .	0.09	0.48
79	1.62	. .	T	. .	0.17	. .	. .	. .	. .	*	0.86	0.15	. .	. .	. .	T	0.18
77	T	. .	T	. .	0.01	. .	. .	. .	. .	0.03	1.48	0.51	. .	. .	0.01	T	0.14
159	. .	. .	0.05	. .	0.41	0.03	. .	. .	. .	. .	0.54	1.04	. .	. .	0.02	. .	0.02
149	. .	. .	. .	. .	0.18	0.02	. .	. .	. .	T	1.10	0.32	. .	. .	T	. .	0.83
104	. .	. .	T	. .	0.13	T	0.02	. .	. .	. .	0.31	0.77	. .	. .	0.17	. .	0.08
122	. .	. .	. .	. .	0.25	. .	. .	. .	. .	. .	*	1.30	. .	. .	0.08	. .	0.34
120	. .	. .	. .	. .	0.06	. .	. .	. .	. .	. .	2.16	1.23	. .	. .	. .	. .	0.07
123	T	. .	. .	. .	0.32	T	. .	. .	. .	. .	1.90	1.37	0.17	0.05	. .	. .	0.05
152	. .	. .	. .	. .	0.13	0.03	. .	. .	. .	. .	2.09	2.85	. .	. .	. .	. .	. .
134	0.20	. .	. .	. .	0.05	. .	. .	. .	. .	. .	2.95	1.50	. .	. .	0.05	. .	0.05
155	. .	. .	0.05	. .	0.55	. .	. .	. .	. .	. .	0.04	0.26	. .	. .	0.56	. .	0.03
146	. .	. .	0.09	. .	0.13	. .	. .	. .	. .	. .	0.01	0.06	0.01	T	2.56	0.01	. .
114	. .	. .	0.42	. .	0.15	. .	. .	. .	. .	. .	0.14	0.18	. .	. .	0.52	. .	. .
153	. .	. .	0.05	. .	*	0.20	. .	. .	. .	. .	0.12	*	0.65	. .	0.15	. .	. .
148	. .	. .	0.10	. .	0.27	0.17	. .	. .	. .	. .	0.06	0.61	. .	. .	0.67	. .	. .
163	0.01	. .	0.01	. .	0.04	0.05	. .	. .	. .	. .	0.11	0.54	0.01	. .	0.38	. .	T
202	. .	. .	0.02	. .	0.03	0.03	. .	. .	. .	. .	*	0.51	. .	. .	0.89	. .	T
207	T	. .	0.11	. .	0.05	0.04	. .	. .	. .	. .	*	1.16	. .	. .	0.30	T	. .
201	. .	. .	0.22	0.04	0.06	. .	. .	. .	. .	. .	0.02	0.31	. .	. .	0.74	. .	. .
233	. .	. .	0.46	. .	0.02	. .	. .	. .	. .	. .	0.44	1.00	. .	. .	0.68	. .	. .
229	. .	. .	0.37	0.01	0.50	T	. .	. .	. .	T	0.31	0.80	0.02	. .	0.81	0.01	. .
224	0.03	. .	0.01	. .	T	. .	. .	. .	. .	. .	2.75	1.34	. .	0.15	. .	T	. .
234	0.05	. .	. .	. .	0.06	. .	. .	. .	. .	. .	2.66	0.88	. .	0.34	. .	. .	0.06
235	0.48	. .	0.08	. .	0.21	. .	. .	. .	. .	. .	*	3.26	. .	. .	0.19	. .	. .
230	0.06	. .	0.16	. .	0.05	. .	. .	. .	. .	*	2.70	0.66	. .	0.37	. .	. .	. .
251	0.17	. .	T	. .	0.08	T	. .	. .	. .	0.01	0.70	0.73	. .	. .	T	0.01	0.01
258	1.16	. .	0.16	. .	T	T	. .	. .	. .	. .	1.59	1.68	. .	. .	. .	. .	. .
253	0.21	. .	0.52	. .	0.07	. .	. .	. .	. .	. .	1.24	1.19	. .	. .	0.47	. .	. .
255	T	. .	0.25	0.30	. .	. .	. .	. .	. .	T	1.10	0.68	. .	T	0.69	T	. .
256	T	. .	0.14	. .	0.03	. .	. .	. .	. .	. .	1.76	0.91	. .	. .	1.15	. .	. .

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.04	0.17	0.36	. .	0.20
4	Eastport . . Me. .	T	. .	. .	. .	. .	. .	. .	. .	. .	0.03	0.46	0.39	. .	0.10
2	Bar Harbor	. .	. .	. .	. .	. .	T	. .	. .	T	. .	0.86	. .	. .	0.27
5	Fairfield	. .	. .	. .	. .	. .	0.16	. .	. .	. .	. .	. .	. .	. .	0.15
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.10	. .	. .	. .	. .
8	Lewiston	. .	. .	. .	. .	. .	0.11	. .	. .	. .	0.03	T	. .	. .	. .
12	Portland	T	. .	. .	. .	. .	0.01	. .	. .	0.01	T	. .	. .	. .	. .
51	Stratford, N.H. .	. .	. .	. .	. .	. .	0.21	. .	. .	. .	0.18	. .	. .	. .	. .
34	Berlin Mills	. .	. .	. .	0.15	. .	0.15	. .	. .	. .	. .	. .	. .	0.02	. .
47	North Conway . .	. .	. .	. .	. .	. .	0.84	. .	. .	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	. .	. .	. .	. .	0.08	. .	. .	. .	. .	. .	. .	. .	. .
39	Hanover	0.13	. .	. .	. .	. .	0.22	. .	. .	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	. .	. .	0.26	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	. .	. .	. .	. .	. .	0.20	. .	. .	. .	0.01	. .	. .	. .	. .
52	Walpole	. .	. .	. .	. .	. .	. .	0.62	. .	0.03	0.03	0.01	. .	. .	. .
45	Nashua	0.04	. .	. .	. .	. .	0.21	. .	. .	0.07	0.05	T	0.07	. .	0.01
78	Lunenburgh, Vt. .	. .	. .	. .	. .	. .	*	0.45	. .	. .	. .	. .	0.15	. .	0.12
73	Burlington	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.02	0.03	. .	. .	0.09
82	Northfield	0.02	. .	. .	. .	0.08	0.09	. .	. .	. .	0.11	T	. .	. .	. .
75	Cornwall	. .	. .	. .	0.04	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	T	. .	. .	. .	0.36	. .	. .	. .	T	0.05	. .	. .	. .
79	Manchester	. .	. .	. .	. .	. .	0.28	. .	. .	. .	0.06	0.03	T	. .	0.16
77	Jacksonville	. .	. .	. .	. .	0.01	0.34	. .	. .	T	0.25	. .	0.05	. .	. .
159	Salem . . Mass. .	0.11	. .	. .	. .	. .	0.24	. .	. .	0.15	0.32	. .	. .	. .	. .
149	Newburyport . . .	0.01	. .	. .	. .	. .	0.06	. .	. .	0.12	0.05	T	0.01	T	T
104	Blue Hill	0.12	. .	. .	. .	. .	0.36	. .	. .	0.19	0.12	. .	T	. .	. .
122	Framingham . . .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.36	. .	. .	. .	0.08
120	Fitchburg	0.10	. .	. .	. .	. .	. .	. .	. .	0.14	0.06	. .	. .	. .	0.18
123	Gilbertville	0.57	. .	. .	. .	T	. .	. .	. .	0.20	0.42	. .	0.28	. .	0.16
152	Northampton . . .	0.28	. .	. .	. .	. .	0.03	. .	. .	0.06	0.38	. .	0.08	. .	. .
134	Ludlow	0.46	. .	. .	. .	. .	. .	. .	. .	. .	0.45	. .	0.10	. .	. .
155	Provincetown . . .	0.12	. .	. .	. .	. .	T	. .	. .	0.30	0.51	0.02	. .	T	. .
146	Nantucket	. .	. .	. .	. .	. .	. .	0.04	. .	0.41	0.87	0.07	. .	. .	T
114	Cotuit	0.25	. .	. .	. .	. .	. .	. .	. .	0.24	2.95	. .	. .	. .	. .
153	Plymouth	. .	. .	. .	. .	. .	. .	. .	. .	*	0.78	. .	T	. .	. .
148	New Bedford . . .	0.66	. .	. .	. .	. .	0.01	. .	. .	0.76	0.18	. .	. .	. .	. .
163	Taunton	0.31	. .	. .	. .	. .	0.15	. .	. .	0.61	0.37	. .	T	. .	. .
202	Bristol . . . R. I. .	0.50	. .	. .	. .	. .	0.20	. .	. .	0.66	0.31	. .	. .	0.03	. .
207	Providence	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
201	Block Island	. .	. .	0.01	0.04	. .	. .	. .	. .	0.50	0.82	0.03	. .	0.02	. .
233	Voluntown Conn.	1.15	. .	. .	. .	. .	0.60	. .	. .	0.14	0.19	. .	. .	0.04	. .
229	New London . . .	0.15	. .	. .	. .	. .	0.10	. .	. .	0.35	0.42	T	. .	0.01	. .
224	Hartford	0.71	. .	. .	. .	. .	T	. .	. .	0.50	0.16	. .	0.04	. .	. .
234	Wallingford	. .	. .	. .	. .	0.08	0.12	. .	0.10	0.06	0.08	. .	. .	. .	. .
235	Waterbury	0.21	. .	. .	. .	. .	0.06	. .	. .	0.53	0.43	. .	T	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	0.18	0.35	. .	. .	. .	. .
251	Albany . . N.Y. .	0.07	. .	. .	. .	T	0.18	. .	. .	0.02	0.17	T	. .	. .	0.04
258	Poughkeepsie . . .	0.20	. .	. .	. .	T	. .	. .	. .	0.28	0.11	. .	T	. .	0.52
253	Carmel	0.10	. .	. .	. .	. .	0.07	. .	. .	0.07	0.45	. .	0.13	. .	0.19
255	New York	. .	. .	T	. .	T	0.02	. .	0.01	0.05	0.35	T	. .	. .	T
256	Setauket	. .	. .	T	T	. .	0.03	. .	T	0.16	1.16	. .	. .	T	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	0.34	. .	0.33	. .	2.67	. .	0.60	*	0.72	. .	. .	1.76	. .	. .	. .	0.03
4	T	0.06	. .	0.62	. .	0.91	. .	0.79	0.12	0.06	0.04	. .	1.54	T	. .	0.10	0.13
2	. .	. .	*	0.98	. .	0.96	. .	0.46	. .	. .	. .	. .	2.20	. .	. .	*	0.20
5	. .	. .	*	0.51	. .	0.95	. .	0.67	*	0.09	. .	. .	0.85	0.01	. .	0.15	0.03
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	. .	. .	0.70	0.36	*	1.02	. .	0.46	0.26	0.09	. .	. .	1.31	. .	. .	0.73	0.04
8	. .	. .	0.49	0.20	*	0.89	. .	0.50	*	0.33	. .	T	0 75	T	. .	0.16	0.01
12	0.01	. .	0.01	0.15	T	0.93	. .	0.49	0.11	0.05	. .	. .	1.07	. .	. .	0.15	T
51	. .	. .	*	0.54	*	1.19	. .	0.58	*	*	0.75	. .	1.33	0.37	. .	1.26	0.05
34	. .	. .	0.51	. .	0.71	. .	0.65	. .	*	*	1.65	. .	2.35	1.35	. .	0.02	0.85
47	. .	. .	0.13	. .	*	0.90	*	0.85	*	0.53	. .	. .	1.30	. .	. .	1.50	. .
49	. .	. .	*	0.20	0.14	0.41	. .	0.59	0.92	0.35	. .	. .	1.64	. .	. .	1.27	. .
39	. .	. .	. .	0.23	0.11	1.03	. .	0.91	2.29	0.44	. .	. .	1.83	. .	. .	0.58	. .
40	. .	. .	0.26	. .	. .	0.74	0.45	. .	1.27	. .	. .	. .	0.57	. .	. .	1.44	. .
37	. .	. .	0.10	0.11	0.75	0.21	0.05	0.08	0.51	0.04	. .	. .	0.60	. .	. .	0.90	. .
52	0.05	. .	*	0.55	*	0.54	*	0.80	*	1.60	. .	. .	1.26	. .	. .	0.62	. .
45	. .	. .	0.40	0.22	0.76	1.19	0.02	0.02	0.89	0.04	. .	0.13	0.99	. .	. .	0.75	. .
78	. .	. .	0.20	. .	*	1.43	*	0.18	0.30	*	0.59	0.16	1.48	0.10	. .	*	0.98
73	. .	. .	0.14	0.05	. .	2.20	0.03	0.65	1.88	0.39	. .	. .	0.68	0.05	. .	0.42	0.13
82	. .	. .	T	0.06	0.45	1.11	T	0.85	1.98	0.34	. .	. .	1.50	0.04	. .	0.34	0.01
75	. .	. .	0.37	. .	*	1.43	*	0.58	1.87	. .	. .	. .	1.25	. .	. .	0.45	0.01
74	. .	. .	0.02	0.23	0.42	0.22	0.18	0.45	2.17	0.44	. .	T	2.05	0.05	. .	0.46	0.10
79	. .	. .	*	1.05	0.12	0.52	*	1.06	1.10	. .	T	T	0.16	. .	. .	0.12	T
77	. .	. .	0.20	0.38	*	1.36	*	0.86	1.14	. .	. .	. .	1.21	. .	. .	0.76	. .
159	. .	. .	. .	. .	*	1.06	. .	0.10	0.12	0.16	. .	. .	*	1.07	. .	0.23	. .
149	. .	. .	T	0.28	0.03	1.42	. .	0.22	0.09	0.59	. .	T	1.51	. .	. .	0.44	T
104	. .	. .	. .	0.44	0.02	0.39	T	0.02	0.45	T	. .	T	0.82	. .	. .	0.17	. .
122	. .	. .	*	0.64	*	0.69	0.13	*	0.61	. .	. .	. .	1.05	. .	. .	0.16	. .
120	. .	. .	0.23	0.55	0.30	1.35	. .	0.15	1.03	. .	. .	. .	1.32	. .	. .	0.66	. .
123	. .	. .	. .	1.60	0.12	1.72	0.03	. .	0.52	0.04	T	. .	1.39	. .	. .	0.91	. .
152	. .	. .	0.75	0.08	0.30	0.85	. .	0.47	0.87	0.01	. .	. .	1.51	. .	. .	0.19	. .
134	. .	. .	0.32	1.00	0.10	1.40	. .	0.20	0.50	0.02	. .	. .	0.95	. .	. .	0.41	. .
155	T	. .	. .	T	T	0.48	. .	. .	0.20	. .		. .	1.18	. .	. .	0.01	. .
146	. .	. .	. .	T	0.01	0.25	0.05	T	0.35	. .	. .	. .	0.67	. .	. .	0.09	T
114	. .	. .	. .	0.07	. .	0.04	. .	. .	0.28	. .	. .	. .	1.12	. .	. .	0.03	. .
153	. .	. .	. .	0.04	. .	0.39	. .	0.06	0.05	T	. .	. .	*	1.54	. .	0.15	. .
148	0.01	. .	. .	0.01	. .	0.11	. .	. .	. .	. .	. .	*	2.00	. .	0.01	. .	. .
163	. .	. .	. .	0.58	0.06	0.44	. .	0.06	*	0.04	. .	. .	1.40	. .	. .	. .	. .
202	. .	. .	. .	0.02	*	0.69	*	0.02	0.04	. .	. .	. .	1.39	. .	. .	. .	0.01
207	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
201	. .	. .	. .	T	. .	0.10	0.12	0.02	0.05	. .	. .	. .	0.38	. .	. .	. .	. .
233	. .	. .	. .	0.15	*	*	*	*	0.70	. .	. .	T	1.70	. .	. .	T	. .
229	. .	. .	. .	0.05	T	0.26	T	0.05	0.20	. .	. .	. .	0.81	. .	. .	0.03	. .
224	. .	. .	*	0.32	0.06	0.50	T	0.14	0.33	. .	. .	T	1.29	. .	. .	. .	. .
234	0.05	. .	0.10	0.04	. .	0.73	0.10	0.42	. .	. .	. .	. .	1.98	. .	. .	0.01	. .
235	. .	. .	. .	0.44	*	0.65	*	0.21	0.33	. .	. .	. .	1.64	. .	. .	. .	. .
230	. .	. .	. .	0.15	0.70	. .	0.12	0.35	. .	. .	. .	. .	3.30	. .	. .	. .	. .
251	. .	. .	0.35	0.19	T	0.74	0.34	1.00	1.62	0.01	. .	. .	0.76	. .	. .	0.17	. .
258	. .	. .	. .	0.89	. .	0.58	*	0.92	*	1.28	. .	. .	0.93	. .	. .	. .	. .
253	. .	. .	*	0.59	*	0.59	*	*	0.69	. .	. .	*	1.43	. .	. .	0.13	. .
255	. .	. .	. .	0.38	0.24	0.92	0.01	0.28	0.96	. .	. .	T	0.79	. .	. .	0.05	. .
256	. .	. .	. .	0.62	0.04	0.43	T	0.20	0.63	. .	. .	T	1.00	. .	. .	T	. .

T Trace, when precipitation is less than 0.01 inch.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	. .	. .	0.03	. .	. .	. .	0.11	. .	. .	*	*	1.25
4	Eastport . . Me. .	. .	. .	. .	. .	0.05	. .	. .	. .	0.32	T	. .	0.47	0.06	0.38
2	Bar Harbor	. .	. .	. .	. .	. .	. .	. .	. .	0.29	. .	T	*	*	0.60
5	Fairfield	. .	. .	. .	. .	. .	. .	. .	. .	0.52	. .	. .	0.38	0.24	0.08
6	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	*	*	0.43	0.50	0.36	. .
8	Lewiston	. .	. .	. .	. .	0.01	. .	. .	. .	0.98	0.01	0.02	0.75	0.32	. .
12	Portland	. .	. .	0.11	0.01	T	. .	. .	. .	0.14	0.01	T	0.41	0.69	0.01
51	Stratford, N.H. .	. .	. .	. .	0.05	. .	. .	. .	. .	0.37	. .	T	0.44	0.61	. .
34	Berlin Mills	. .	. .	. .	. .	. .	. .	. .	. .	0.26	0.67	. .	*	1.30	. .
47	North Conway . .	. .	. .	. .	. .	. .	. .	. .	. .	*	*	*	*	2.19	. .
49	Plymouth	. .	. .	. .	. .	0.02	0.20	. .	. .	0.64	0.09	0.18	0.48	0.38	*
39	Hanover	. .	T	. .	. .	0.08	0.23	. .	. .	0.05	0.23	0.24	0.17	0.65	0.10
40	Lake Village . . .	. .	. .	. .	. .	. .	0.02	. .	. .	0.17	*	*	*	1.22	. .
37	Concord	. .	. .	0.04	. .	. .	0.17	. .	. .	0.19	0.10	0.02	0.33	0.58	0.02
52	Walpole	. .	. .	T	. .	. .	1.23	. .	. .	*	1.00	*	*	0.25	*
45	Nashua	. .	. .	T	. .	. .	0.91	. .	. .	0.10	1.18	0.16	0.52	0.62	0.20
78	Lunenburgh, Vt. .	0.10	. .	. .	. .	. .	. .	. .	. .	0.39	. .	0.18	0.50	0.75	*
73	Burlington	0.04	. .	0.01	. .	0.01	. .	. .	. .	0.47	0.24	0.25	0.40	1.47	0.07
82	Northfield	0.01	. .	0.01	. .	0.11	0.02	. .	. .	0.42	0.07	0.33	0.24	0.55	0.11
75	Cornwall	. .	. .	. .	. .	0.16	0.17	. .	. .	0 02	0.10	0.95	0.34	0.60	. .
74	Chelsea	0.04	. .	T	. .	0.18	. .	. .	. .	0.35	*	0.48	0.43	1.35	0.15
79	Manchester	. .	. .	. .	. .	0.24	0.62	T	. .	*	1.05	*	0.22	1.56	*
77	Jacksonville	. .	. .	. .	. .	0.07	0.68	0.09	. .	0.15	1.96	0.05	0.81	0.45	0.03
159	Salem . . Mass. .	. .	. .	. .	. .	*	0.66	0.13	. .	. .	0.33	. .	0.99	0.52	0.01
149	Newburyport . . .	. .	. .	T	. .	. .	0.16	. .	. .	0.01	0.70	. .	0.43	0.39	0.01
104	Blue Hill	. .	. .	. .	. .	0.05	2.92	0.28	. .	0.02	0.14	T	0.85	0.48	T
122	Framingham . . .	. .	. .	. .	. .	0.11	2.38	. .	. .	*	0.19	*	*	1.61	*
120	Fitchburg	. .	. .	. .	. .	0.01	1.43	0.05	. .	0.07	1.02	0.12	0.40	0.83	0.03
123	Gilbertville	. .	. .	. .	. .	0.16	1.53	0.04	. .	0.07	0.49	0.12	0.20	1.55	0.13
152	Northampton . . .	. .	. .	. .	. .	0.21	0.36	. .	. .	. .	0.80	. .	0.50	0.70	0.25
134	Ludlow	. .	. .	. .	. .	0.20	0.65	. .	. .	0.05	0.30	0.15	0.25	1.60	0.50
155	Provincetown . . .	. .	. .	. .	. .	. .	0.75	0.12	. .	. .	0.04	*	0.03	*	*
146	Nantucket	. .	. .	. .	. .	T	1.50	0.72	. .	. .	. .	0.02	0.43	. .	0.41
114	Cotuit	. .	. .	. .	. .	0.08	1.59	. .	. .	. .	0.06	. .	. .	. .	0.05
153	Plymouth	. .	. .	. .	. .	*	1.91	. .	. .	. .	*	*	0.54	*	0.58
148	New Bedford . . .	. .	. .	. .	. .	0.08	0.64	. .	. .	*	0.06	*	0.66	0.03	0.15
163	Taunton	. .	. .	. .	. .	0.13	1.05	0.38	. .	T	0.13	. .	0.79	*	0.51
202	Bristol . . . R. I. .	. .	. .	. .	. .	0.14	*	0.50	. .	*	*	*	0.74	0.35	0.31
207	Providence	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
201	Block Island	. .	. .	. .	. .	0.12	0.07	0.01	. .	. .	0.01	0.03	0.07	0.02	0.28
233	Voluntown Conn.	. .	. .	. .	. .	0.17	0.20	T	. .	T	T	0.08	0.85	0.95	T
229	New London . . .	. .	. .	. .	. .	0.60	0.07	0.02	. .	. .	0.02	0.05	0.55	0.39	0.13
224	Hartford	. .	. .	. .	. .	0.56	0.10	. .	T	. .	0.17	. .	*	*	*
234	Wallingford	. .	. .	. .	. .	0.13	. .	. .	. .	. .	0.35	0.50	. .	0.33	0.68
235	Waterbury	. .	. .	. .	. .	0.04	0.12	. .	. .	*	0.07	*	0.89	1.47	*
230	Shelton	. .	. .	. .	. .	0.01	0.08	. .	. .	0.01	. .	0.67	0.48	0.33	0.45
251	Albany . . N.Y. .	. .	. .	. .	. .	0.60	0.44	. .	. .	0.01	3.23	0.06	0.50	1.43	0.30
258	Poughkeepsie . . .	. .	. .	. .	. .	. .	0.09	. .	. .	*	0.73	*	1.12	0.55	0.14
253	Carmel	. .	. .	. .	. .	0.05	0.11	. .	. .	. .	0.05	. .	0.49	4.46	. .
255	New York	. .	. .	. .	. .	0.28	0.20	. .	. .	. .	T	0.35	0.32	0.09	0.01
256	Setauket	. .	. .	. .	. .	0.78	0.04	T	. .	. .	T	0.25	0.25	0.40	0.10

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	*	*	*	3.89	. .	. .	. .	. .	0.18	. .	. .	. .	0.31	. .	. .	. .	
4	0.99	0.58	0.84	0.68	T	. .	. .	. .	0.17	T	. .	. .	0.31	0.01	. .	. .	
2	*	*	*	3.13	. .	. .	. .	. .	. .	T	. .	*	0.20	0.03	. .	. .	
5	0.36	*	*	1.99	. .	. .	. .	. .	. .	. .	. .	*	0.28	. .	. .	. .	
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	*	0.43	1.20	1.00	. .	T	. .	. .	. .	. .	. .	*	0.50	T	. .	. .	
8	0.74	0.25	0.93	0.65	. .	0.03	. .	. .	0.01	. .	. .	0.04	0.39	. .	. .	. .	
12	0.61	0.04	1.01	1.53	. .	T	. .	. .	. .	. .	. .	0.19	0.12	. .	. .	. .	
51	T	*	*	1.01	. .	. .	. .	. .	T	T	0.20	*	0.50	. .	. .	. .	
34	0.18	*	0.30	. .	. .	. .	. .	. .	. .	. .	. .	*	0.15	. .	. .	. .	
47	*	0.19	*	2.63	. .	. .	. .	. .	. .	. .	. .	*	0.23	. .	. .	. .	
49	0.29	1.48	0.76	0.32	. .	. .	. .	. .	0.08	. .	. .	0.49	0.22	. .	. .	. .	
39	0.26	1.01	0.57	0.01	T	0.01	. .	. .	T	. .	. .	0.37	0.01	. .	. .	. .	
40	0.54	*	3.44	. .	. .	. .	. .	. .	. .	. .	. .	0.50	. .	0.14	. .	. .	
37	0.60	0.02	0.33	1.75	. .	T	. .	. .	0.03	. .	. .	0.34	0.13	. .	. .	. .	
52	*	0.45	*	2.02	. .	. .	. .	. .	. .	. .	. .	*	0.36	. .	. .	. .	
45	1.43	0.39	0.30	0.27	. .	. .	. .	. .	. .	. .	. .	0.20	T	. .	. .	. .	
78	0.53	*	0.39	. .	0.10	0.12	. .	0.08	0.12	0.14	. .	. .	0.53	. .	. .	. .	
73	. .	0.35	0.14	0.03	. .	. .	. .	. .	0.05	. .	. .	. .	0.27	0.04	. .	. .	
82	0.05	0.01	0.39	0.19	. .	0.04	. .	. .	0.04	0.06	. .	0.16	0.14	. .	. .	. .	
75	0.10	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .	0.22	. .	. .	. .	. .	
74	0.34	0.37	0.40	0.08	. .	0.06	. .	. .	0.02	0.03	. .	0.15	0.11	. .	. .	. .	
79	0.54	*	*	1.80	. .	0.04	. .	. .	. .	. .	. .	*	0.47	. .	. .	. .	
77	0.60	0.08	0.93	0.20	. .	T	. .	. .	0.02	. .	. .	0.21	0.13	. .	. .	. .	
159	0.26	0.47	0.71	0.09	. .	. .	. .	. .	. .	. .	. .	*	0.25	. .	. .	. .	
149	0.41	0.19	0.46	0.37	. .	. .	. .	. .	T	. .	. .	0.21	0.05	. .	. .	. .	
104	0.40	1.68	0.17	0.24	. .	. .	. .	. .	. .	. .	. .	0.23	0.03	. .	. .	. .	
122	*	0.55	*	1.38	. .	. .	. .	. .	. .	. .	. .	*	0.29	. .	. .	. .	
120	1.17	0.05	0.21	0.18	. .	. .	. .	. .	. .	. .	. .	0.35	0.04	. .	. .	. .	
123	1.02	0.12	0.73	0.21	. .	. .	. .	. .	. .	. .	. .	0.31	0.08	. .	. .	. .	
152	0.63	. .	2.64	0.19	. .	. .	. .	. .	. .	. .	. .	0.42	0.05	. .	. .	. .	
134	1.00	0.10	1.20	0.65	. .	0.02	. .	. .	. .	0.01	. .	0.25	0.10	. .	. .	. .	
155	0.48	3.00	2.34	0.01	. .	. .	. .	. .	. .	. .	. .	0.70	0.08	0.04	. .	. .	
146	1.51	1.21	0.42	0.03	. .	. .	. .	. .	. .	. .	. .	0.18	1.87	0.01	0.02	. .	
114	1.22	0.46	1.74	. .	. .	. .	. .	. .	. .	. .	. .	0.80	. .	0.11	. .	. .	
153	*	*	*	2.37	0.05	. .	. .	. .	. .	. .	. .	*	*	0.75	. .	. .	
148	0.12	*	4.95	. .	. .	. .	. .	. .	0.02	. .	. .	*	0.87	0.15	. .	. .	
163	0.56	0.70	0.14	0.02	. .	. .	. .	. .	. .	. .	. .	*	0.75	T	. .	. .	
202	0.10	*	1.13	. .	. .	. .	. .	T	. .	. .	. .	*	0.71	0.02	. .	. .	
207	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
201	0.32	0.97	0.22	. .	. .	. .	. .	. .	. .	. .	. .	0.56	0.01	T	. .	. .	
233	0.96	1.05	0.19	. .	. .	. .	. .	T	. .	. .	. .	0.46	T	. .	. .	. .	
229	0.95	1.90	0.20	T	. .	. .	. .	T	0.01	. .	. .	0.50	0.10	0.02	. .	. .	
224	*	*	*	2.65	. .	T	. .	. .	. .	. .	. .	*	0.30	. .	. .	. .	
234	0.72	0.67	1.43	0.45	. .	. .	. .	. .	. .	. .	. .	0.40	. .	. .	. .	. .	
235	0.87	0.91	*	1.02	. .	. .	. .	T	. .	. .	. .	*	0.31	. .	. .	. .	
230	0.57	0.78	2.43	. .	. .	. .	. .	. .	. .	. .	. .	0.43	. .	. .	. .	. .	
251	0.33	0.09	1.49	0.01	. .	0.02	. .	. .	T	. .	. .	0.36	0.03	0.01	. .	. .	
258	0.50	. .	1.16	0.02	. .	. .	. .	. .	. .	. .	. .	0.25	0.01	. .	. .	. .	
253	0.38	0.08	1.42	0.48	. .	. .	. .	T	. .	. .	. .	0.28	. .	. .	. .	. .	
255	0.42	1.59	3.28	T	. .	. .	. .	T	. .	. .	. .	0.66	0.01	T	. .	. .	
256	1.38	0.78	2.11	T	. .	. .	. .	. .	. .	. .	. .	0.44	T	T	. .	. .	

T Trace, when precipitation is less than 0.01 inch.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	. .	. .	. .	. .	0.38	0.05	. .	0.01	. .	. .	0.49	0.05	. .	. .
4	Eastport, Me.	. .	. .	. .	0.01	0.03	. .	T	0.16	. .	0.03	0.39	0.02	. .	. .
2	Bar Harbor	. .	. .	. .	*	0.18	T	. .	0.10	*	0.41	. .	. .	. .	*
5	Fairfield	. .	. .	. .	0.16	. .	. .	. .	0.67	. .	*	0.26	. .	. .	*
3	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	. .	0.15	. .	. .	*	0.67	0.07	0.05	. .	. .	*
8	Lewiston	. .	. .	. .	0.04	. .	. .	0.02	0.72	. .	0.01	. .	. .	. .	0.02
12	Portland	. .	. .	. .	0.86	0.01	. .	. .	0.45	. .	0.05	0.01	. .	. .	0.02
51	Stratford, N.H.	. .	. .	. .	0.11	0.11	. .	. .	0.90	. .	0.32	0.03	. .	. .	*
34	Berlin Mills	. .	. .	. .	0.28	. .	. .	. .	0.74	. .	0.15	. .	. .	. .	0.22
47	North Conway	. .	. .	. .	0.10	. .	. .	*	0.50	. .	. .	. .	. .	*	1.90
49	Plymouth	. .	. .	. .	0.32	. .	. .	0.13	0.49	. .	0.12	. .	. .	. .	0.39
39	Hanover	. .	. .	0.23	0.19	. .	. .	0.08	0.43	. .	0.14	T	. .	. .	0.47
40	Lake Village	. .	. .	. .	0.31	. .	. .	*	0.54	. .	0.12	. .	. .	. .	0.29
37	Concord	. .	. .	0.10	1.41	. .	. .	0.12	0.41	. .	0.05	. .	. .	. .	0.30
52	Walpole	. .	. .	*	0.34	. .	. .	*	0.48	. .	0.03	T	. .	. .	0.47
45	Nashua	. .	. .	0.16	0.41	. .	. .	0.29	0.37	. .	0.05	T	. .	. .	0.28
78	Lunenburgh, Vt.	. .	. .	. .	0.15	0.10	. .	. .	. .	. .	*	0.57	. .	0.08	. .
73	Burlington	. .	. .	. .	0.05	. .	. .	. .	0.12	0.16	0.18	. .	. .	. .	0.35
82	Northfield	. .	. .	. .	0.03	0.01	. .	0.06	0.50	. .	0.18	0.03	. .	. .	0.43
75	Cornwall	. .	. .	0.10	. .	. .	0.20	. .	. .	. .	. .	. .	. .	. .	0.30
74	Chelsea	. .	. .	. .	0.12	0.07	. .	*	0.72	. .	*	0.13	. .	. .	0.58
79	Manchester	. .	. .	. .	. .	0.24	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	. .	*	0.39	0.01	. .	0.47	0.51	. .	0.08	0.01	. .	. .	0.42
159	Salem, Mass.	. .	. .	*	1.09	0.04	. .	0.31	0.27	. .	. .	. .	. .	. .	0.16
149	Newburyport	. .	. .	0.03	0.58	. .	. .	0.11	0.51	. .	0.03	. .	. .	. .	0.20
104	Blue Hill	. .	. .	0.23	0.80	. .	. .	0.22	0.26	. .	0.09	0.05	. .	. .	0.21
122	Framingham	. .	. .	*	2.58	. .	. .	*	0.71	0.06	0.07	. .	. .	. .	*
120	Fitchburg	. .	. .	0.15	0.45	. .	. .	0.42	0.55	. .	0.05	. .	. .	. .	0.55
123	Gilbertville	. .	. .	0.26	0.19	. .	. .	0.38	0.39	. .	0.08	. .	. .	. .	0.30
152	Northampton	. .	. .	0.03	0.81	. .	. .	0.22	. .	. .	. .	. .	. .	. .	0.45
134	Ludlow	. .	. .	. .	0.05	. .	0.02	0.30	0.32	. .	0.10	0.05	. .	. .	0.25
155	Provincetown	. .	. .	*	0.99	. .	. .	0.16	0.41	0.03	0.04	0.06	. .	. .	0.14
146	Nantucket	. .	. .	. .	T	. .	. .	0.09	0.47	0.01	. .	0.10	. .	. .	0.21
114	Cotuit	. .	. .	0.02	0.33	. .	. .	0.26	0.42	. .	. .	0.24	. .	. .	0.18
153	Plymouth	. .	. .	T	*	1.13	. .	*	0.78	. .	*	0.10	. .	. .	*
148	New Bedford	. .	. .	0.03	0.49	. .	. .	0.04	0.43	. .	0.19	. .	. .	. .	0.68
163	Taunton	. .	. .	0.01	1.20	. .	. .	0.37	0.23	. .	*	0.15	. .	. .	0.42
202	Bristol, R. I.	. .	. .	*	0.83	0.02	. .	*	0.50	. .	*	0.04	. .	. .	*
207	Providence	. .	. .	*	1.13	. .	T	*	0.50	. .	0.09	. .	. .	. .	0.64
201	Block Island	. .	. .	0.07	0.35	. .	T	0.12	0.02	. .	0.01	0.09	. .	. .	0.20
233	Voluntown, Conn.	. .	. .	0.02	1.25	. .	T	0.46	0.28	. .	. .	0.10	. .	. .	0.40
229	New London	. .	. .	0.04	0.30	. .	0.20	0.38	0.33	. .	0.01	0.10	. .	. .	0.27
224	Hartford	. .	. .	0.03	0.17	. .	0.06	0.46	0.18	. .	0.02	. .	. .	. .	0.30
234	Wallingford	. .	. .	0.38	. .	. .	0.42	0.72	. .	. .	0.05	. .	. .	0.11	0.32
235	Waterbury	. .	. .	0.29	0.48	. .	*	0.42	0.65	. .	0.06	. .	. .	. .	0.50
230	Shelton	. .	. .	1.06	0.13	. .	0.52	0.62	. .	. .	. .	. .	. .	. .	0.63
251	Albany, N.Y.	. .	. .	0.03	0.05	. .	T	0.35	0.46	. .	0.05	0.02	. .	. .	0.42
258	Poughkeepsie	. .	0.42	0.06	. .	. .	0.55	0.59	0.06	. .	0.04	T	. .	. .	0.46
253	Carmel	. .	. .	*	1.38	. .	*	0.92	. .	. .	. .	0.07	. .	. .	0.59
255	New York	. .	T	1.37	0.17	. .	0.24	0.35	0.01	. .	. .	0.02	. .	. .	0.25
256	Setauket	. .	T	0.62	. .	. .	0.05	1.15	0.05	. .	. .	0.24	. .	. .	0.28

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.09	. .	*	0.75	. .	0.72	. .	. .	. .	. .	. .	. .	*	0.47	0.18	. .	. .
4	0.03	. .	0.27	0.38	. .	0.54	. .	. .	. .	. .	. .	. .	0.06	0.24	0.03	0.09	. .
2	0.18	. .	*	1.26	. .	0.41	. .	. .	. .	. .	. .	. .	0.08	. .	*	0.50	. .
5	0.23	. .	1.20	. .	. .	0.13	. .	. .	. .	. .	. .	. .	. .	. .	*	0.80	. .
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	0.20	. .	1.42	. .	. .	*	0.42	. .	. .	. .	. .	. .	. .	. .	*	1.10	. .
8	0.18	. .	2.20	. .	0.05	1.09	. .	. .	. .	. .	. .	. .	. .	. .	0.50	0.64	T
12	0.17	. .	2.32	0.02	0.30	1.22	. .	. .	. .	. .	. .	. .	. .	. .	0.86	0.50	0.03
51	0.40	. .	*	1.02	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
34	0.05	. .	*	1.35	*	0.55	. .	. .	. .	. .	. .	. .	. .	. .	*	0.25	. .
47	. .	. .	. .	. .	*	2.00	. .	. .	. .	. .	. .	. .	. .	. .	*	1.10	. .
49	. .	. .	1 90	. .	0.59	0.42	. .	. .	. .	0.16	. .	. .	. .	. .	0.35	0.06	. .
39	0.01	. .	1.83	0.09	0.13	0.65	. .	. .	. .	0.43	T	. .	. .	. .	0.07	. .	. .
40	. .	. .	1.85	. .	*	0.91	. .	. .	. .	1.51	. .	. .	. .	. .	0.63	. .	. .
37	. .	. .	2.42	. .	0.71	0.74	. .	. .	. .	1.70	. .	. .	. .	0.35	0.45	. .	. .
52	. .	. .	1.95	. .	*	0.70	. .	. .	. .	1.20	. .	. .	. .	. .	*	0.66	. .
45	. .	0.04	2.12	. .	1.56	0.55	. .	. .	. .	0.79	0.01	. .	T	. .	0.26	0.50	T
78	0.10	. .	*	1.27	0.04	0.21	. .	. .	. .	. .	. .	. .	. .	0.03	0.05	0.05	0.10
73	0.15	0.89	0.01	. .	. .	. .	. .	. .	. .	0.05	. .	. .	. .	. .	. .	0.06	. .
82	0.01	. .	0.99	0.05	0.22	0.48	. .	. .	. .	0.30	. .	. .	T	0.04	0.10	0.06	. .
75	. .	. .	*	0.58	0.38	. .	. .	. .	. .	0.40	. .	. .	. .	. .	0.07	. .	. .
74	0.05	. .	1.30	0.04	*	0.64	. .	. .	. .	0.24	. .	. .	. .	. .	0.12	0.03	. .
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	. .	*	2.04	. .	1.14	0.84	. .	. .	. .	2.47	0.31	. .	. .	. .	0.23	0.38	. .
159	0.15	1.04	0.56	0.02	0.52	1.40	0.08	. .	. .	1.22	0.22	. .	0.03	. .	0.24	. .	. .
149	0.24	. .	2.40	0.05	1.08	0.79	. .	. .	. .	0.61	0.09	. .	T	. .	0.34	0.14	. .
104	0.17	. .	0.90	T	0.86	0.87	. .	. .	. .	2.50	0.56	. .	0.01	. .	0 23	0.01	0.02
122	0.57	. .	1.66	. .	*	*	2.02	. .	*	*	2.18	. .	. .	. .	0.41	. .	. .
120	0.02	. .	2.25	. .	1.25	0.84	. .	. .	. .	1.15	0.28	. .	0.01	. .	0.19	0.39	. .
123	0.08	. .	1.60	. .	1.48	0.24	0.03	. .	. .	1.43	0.53	0.21	. .	. .	0.57	0.17	. .
152	. .	. .	1.60	. .	1.79	0.21	. .	. .	. .	2.36	. .	. .	. .	. .	0.44	. .	. .
134	0.25	*	1.40	. .	0.65	0.26	0.15	. .	. .	1.50	0.50	. .	. .	. .	0.25	0.12	0.05
155	0.32	. .	0.99	T	1.40	0.06	T	. .	. .	1.30	0.24	. .	0.26	. .	0.38	. .	. .
146	0.42	. .	0.61	. .	2.01	0.05	0.01	0.02	. .	0.95	0.57	. .	0.61	. .	0.42	0.01	0.16
114	0.63	. .	0.86	. .	1.57	0.46	0.06	. .	. .	*	3.96	. .	0.55	. .	0.56	. .	0.04
153	0.42	. .	*	0.93	*	*	1.78	. .	. .	*	2.42	. .	*	0.28	*	0.54	. .
148	. .	. .	1.24	. .	*	0.83	. .	. .	. .	4.77	. .	. .	0.29	. .	0.54	0.20	. .
163	0.18	. .	1.00	. .	1.00	0.26	0.01	. .	*	*	3.70	. .	0.08	. .	0.62	. .	. .
202	0.70	*	1.07	. .	*	0.86	. .	. .	*	*	3.25	. .	0.05	. .	*	0.87	. .
207	. .	. .	1.16	. .	*	1.28	. .	. .	*	*	3.80	. .	0.03	. .	*	0.56	. .
201	0.40	. .	0.40	. .	0.24	0.38	0.09	. .	T	0.75	0.73	. .	0.04	. .	0.62	0.06	. .
233	0.17	. .	1.15	. .	1.86	0.20	. .	. .	. .	2.20	. .	. .	T	. .	0.38	T	. .
229	0.30	. .	1.05	. .	0.38	1.01	0.08	. .	0.09	0.54	0.81	. .	0.02	. .	0.45	0.02	0.05
224	. .	. .	1.19	. .	2.42	0.05	0.01	. .	0.06	1.94	0.51	. .	. .	. .	0.17	T	. .
234	. .	0.90	. .	. .	1.34	0.06	. .	0.02	1.20	1.30	. .	. .	. .	0.39	. .	. .	. .
235	. .	. .	1.21	. .	1.36	. .	. .	. .	*	1.56	0.20	. .	. .	. .	0.16	. .	. .
230	. .	1.13	. .	. .	2.25	0.10	. .	. .	1.22	0.88	. .	. .	. .	. .	0.15	. .	. .
251	0.02	0.03	1.62	. .	0.44	0.18	0.01	. .	. .	1.26	0.06	. .	. .	. .	0.09	0.67	. .
258	. .	0.09	1.24	T	0.33	0.09	. .	. .	0.33	T	. .	. .	. .	. .	0.06	. .	0.02
253	. .	*	1.23	. .	0.61	0.11	0.05	. .	*	1.62	. .	. .	. .	. .	0.05	0.13	. .
255	. .	T	1.25	. .	0.33	0.03	0.04	. .	0.68	1.56	0.06	. .	. .	. .	0.10	. .	. .
256	. .	0.04	1.61	. .	1.00	0.09	0.14	. .	0.36	3.16	1.08	. .	. .	. .	0.20	0.03	. .

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . . .	0.30	*	0.96	0.03	. .	. .	. .	0.03	*	0.68	. .	. .	. .	. .
4	Eastport, Me. . .	0.17	0.53	0.21	0.02	. .	. .	. .	0.01	0.16	0.27	. .	. .	. .	. .
2	Bar Harbor	. .	*	0.49	. .	. .	. .	. .	T	T	0.22	. .	T	. .	. .
5	Fairfield	. .	0.09	0.08	. .	. .	. .	. .	. .	*	0.10	. .	. .	. .	. .
3	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	*	0.20	. .	. .	. .	. .	0.02	. .	0.10	. .	. .	. .	. .	. .
8	Lewiston	. .	0.14	T	. .	. .	. .	0.01	. .	0.08	T	T	0.02	. .	. .
12	Portland	. .	0.18	T	. .	. .	. .	. .	. .	T	0.02	T	T	. .	. .
51	Stratford, N.H. .	0.18	0.22	0.12	. .	. .	. .	. .	0.12	*	0.75	. .	. .	. .	. .
34	Berlin Mills	0.15	. .	0.05	. .	. .	. .	. .	0.20	*	0.60	. .	. .	. .	. .
47	North Conway . .	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	0.28	. .	. .	. .	. .	. .	. .	0.09	0.06	. .	. .	. .	. .
39	Hanover	. .	0.07	0.01	. .	. .	. .	. .	T	0.02	0.05	T	. .	. .	. .
40	Lake Village . . .	. .	0.17	. .	. .	. .	. .	. .	. .	0.12	. .	0.04	. .	. .	. .
37	Concord	. .	0.10	. .	. .	. .	. .	. .	0.01	. .	. .	0.04	0.03	. .	. .
52	Walpole	. .	0.30	. .	. .	. .	. .	. .	. .	0.04	. .	. .	. .	. .	. .
45	Nashua	. .	0.03	. .	. .	. .	. .	T	. .	T	T	0.10	0.03	. .	. .
78	Lunenburgh, Vt. .	*	0.11	. .	. .	. .	. .	. .	. .	*	0.50	. .	. .	. .	. .
73	Burlington	. .	. .	. .	. .	. .	. .	. .	0.16	0.05	. .	. .	. .	. .	. .
82	Northfield	T	0.16	0.06	. .	. .	. .	. .	0.10	0.10	0.18	. .	. .	. .	. .
75	Cornwall	. .	. .	. .	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.20
74	Chelsea	. .	0.16	0.06	. .	. .	. .	T	0.16	0.05	0.17	. .	. .	. .	. .
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	0.02	0.49	. .	. .	. .	. .	0.04	0.02	0.13	0.13	0.12	. .	. .	. .
159	Salem, Mass. . . .	T	T	. .	. .	. .	. .	. .	. .	. .	T	0.16	0.12	. .	. .
149	Newburyport . . .	. .	0.02	. .	. .	. .	. .	. .	. .	0.01	0.02	0.09	0.11	. .	. .
104	Blue Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.13	0.07	. .	. .
122	Framingham . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.22	. .	. .
120	Fitchburg	. .	0.06	. .	. .	. .	. .	. .	. .	0.01	0.05	0.17	. .	. .	. .
123	Gilbertville	. .	0.03	. .	. .	. .	. .	. .	. .	T	T	0.15	. .	. .	. .
152	Northampton . . .	. .	0.09	. .	. .	. .	. .	. .	. .	. .	. .	0.22	. .	. .	. .
134	Ludlow	T	. .	. .	. .	. .	. .	. .	. .	T	0.10	0.20	. .	. .	. .
155	Provincetown . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
146	Nantucket	. .	. .	T	. .	. .	. .	. .	. .	0.01	0.04	0.02	0.02	. .	. .
114	Cotuit	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.04	0.28	0.23	. .	. .
153	Plymouth	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	*	0.23	. .	. .
148	New Bedford . . .	. .	. .	. .	. .	. .	. .	0.02	. .	. .	. .	*	0.45	0.02	. .
163	Taunton	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.24	0.11	. .	. .
202	Bristol, R. I. . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	*	0.32	. .
207	Providence	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	*	0.26	. .	. .
201	Block Island	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.22	0.04	. .	. .
233	Voluntown, Conn.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.40	T	. .	. .
229	New London . . .	. .	. .	0.03	. .	. .	. .	T	. .	0.01	0.01	0.17	0.16	. .	. .
224	Hartford	. .	. .	T	. .	. .	. .	. .	. .	. .	T	0.26	. .	. .	. .
234	Wallingford	. .	. .	. .	. .	. .	. .	. .	T	. .	0.05	0.40	. .	. .	. .
235	Waterbury	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.01	0.42	0.01	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	. .	0.09	0.02	0.01	. .	. .	. .	T	T	0.01	0.05	. .	. .	. .
258	Poughkeepsie . . .	0.03	. .	. .	. .	. .	. .	. .	. .	0.01	. .	0.24	. .	. .	. .
253	Carmel	. .	. .	. .	. .	. .	. .	. .	. .	*	0.03	0.62	0.04	. .	. .
255	New York	. .	. .	T	T	. .	. .	. .	. .	T	T	0.37	0.07	. .	. .
256	Setauket	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.32	0.05	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	0.13	*	0.35	0.67	0.02	. .	0.38	. .	. .	0.10	0.12	. .	. .	. .	. .	
4	. .	0.26	0.14	0.61	0.27	T	. .	0.12	T	. .	0.05	0.02	. .	. .	. .	T	
2	*	0.58	*	1.23	0.06	. .	. .	T	T	. .	*	0.01	. .	. .	. .	. .	
5	*	0.30	*	1.32	0.15	. .	. .	. .	. .	. .	0.02	. .	. .	. .	. .	. .	
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	0.24	0.12	0.62	0.96	T	. .	. .	. .	T	. .	*	T	. .	. .	. .	. .	
8	0.06	0.29	0.50	0.76	0.01	. .	. .	. .	0.01	. .	0.01	. .	. .	. .	. .	. .	
12	0.14	0.18	0.86	0.93	T	. .	. .	. .	T	. .	T	T	. .	. .	. .	. .	
51	*	0.20	*	1.48	0.15	*	0.10	. .	0.08	. .	T	. .	. .	. .	. .	. .	
34	0.25	. .	1.65	. .	. .	0.15	. .	. .	0.15	. .	0.05	. .	. .	. .	. .	. .	
47	0.20	. .	*	1.22	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	
49	0.26	. .	0.80	0.56	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	0.15	T	0.87	0.54	T	T	. .	T	T	. .	. .	. .	. .	. .	. .	. .	
40	0.26	. .	1.21	. .	. .	. .	. .	. .	0.03	. .	. .	. .	. .	. .	. .	. .	
37	0.16	. .	0.85	0.29	0.01	. .	. .	T	T	. .	T	. .	. .	. .	. .	. .	
52	0.10	. .	T	. .	T	. .	. .	T	0.01	. .	. .	. .	. .	. .	. .	. .	
45	0.08	. .	0.87	0.19	. .	. .	. .	T	0.01	. .	. .	. .	. .	. .	. .	. .	
78	*	1.50	. .	*	0.05	. .	. .	. .	T	T	. .	T	. .	. .	0.10	. .	
73	0.06	0.17	1.50	0.27	0.04	T	. .	. .	. .	. .	0.04	0.01	. .	. .	0.01	. .	
82	0.04	. .	0.54	0.76	0.09	0.05	. .	T	T	. .	0.10	T	. .	. .	T	. .	
75	. .	. .	1.00	. .	. .	. .	. .	0.02	. .	. .	0.01	. .	. .	. .	. .	. .	
74	0.04	0.10	*	1.36	T	0.05	. .	0.10	T	. .	T	. .	. .	. .	. .	. .	
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
77	0.10	. .	0.74	0.56	0.05	0.05	. .	0.01	0.02	. .	0.02	. .	. .	. .	. .	. .	
159	*	0.26	0.78	0.19	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
149	0.18	0.06	0.61	0.41	0.01	. .	. .	T	T	. .	. .	. .	T	. .	. .	. .	
104	0.20	0.07	0.55	0.09	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	
122	0.21	. .	*	0.82	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
120	0.16	0.01	0.94	0.20	0.03	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
123	0.17	0.09	0.81	0 30	0.03	. .	. .	. .	0.10	. .	. .	. .	. .	. .	. .	. .	
152	0.13	. .	0.80	0.15	. .	. .	. .	. .	0.03	. .	. .	. .	. .	. .	. .	. .	
134	0.10	0.05	0.65	0.30	0.01	. .	. .	. .	0.10	. .	. .	. .	. .	. .	. .	. .	
155	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
146	T	0.02	0.69	0.02	. .	. .	. .	. .	0.03	. .	. .	. .	0.01	0.03	. .	. .	
114	0.31	. .	0.52	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.07	. .	. .	. .	
153	*	0.38	*	0.08	T	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	. .	
148	0.27	. .	0.54	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	0.08	0.04	0.41	0.05	T	. .	. .	. .	T	. .	. .	. .	T	. .	. .	. .	
202	*	0.22	*	0.31	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	
207	0.16	. .	0.32	. .	T	. .	. .	T	T	. .	. .	. .	. .	. .	. .	. .	
201	. .	0.16	0.19	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
233	0.16	. .	0.50	. .	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	
229	T	0.15	0.24	0.08	T	. .	. .	T	T	. .	0.01	. .	. .	. .	. .	. .	
224	0.06	. .	. .	0.29	0.03	0.01	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	
234	0.03	0.06	0.38	. .	0.03	. .	. .	. .	0.02	. .	. .	. .	. .	. .	. .	. .	
235	T	. .	*	0.48	0.01	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
251	T	0.01	0.80	0.04	0.03	. .	. .	0.01	0.11	. .	T	. .	T	T	. .	. .	
258	T	. .	0.42	0.08	. .	. .	. .	. .	0.02	. .	. .	. .	. .	. .	. .	. .	
253	. .	. .	0.64	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
255	T	0.02	0.34	0.02	. .	. .	. .	. .	. .	. .	T	. .	T	. .	. .	. .	
256	T	0.03	0.34	. .	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	. .	. .	*	1.59	. .	. .	0.65	. .	. .	0.02	0.47	0.24	. .	0.06
4	Eastport, Me.	0.08	. .	0.13	0.50	. .	. .	0.22	. .	. .	0.01	0.14	0.22	. .	0.11
2	Bar Harbor	. .	. .	0.03	1.40	T	T	0.50	. .	. .	*	0.36	0.14	. .	0.02
5	Fairfield	. .	. .	*	0.96	. .	0.14	. .	. .	. .	*	0.20	. .	. .	. .
3	Gardiner	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	*	0.70	. .	*	0.18	. .	. .	*	0.20	0.20	. .	. .
8	Lewiston	. .	. .	0.59	0.62	T	0.20	0.05	. .	. .	0.20	0.01	0.14	. .	. .
12	Portland	. .	. .	0.64	0.90	0.02	0.20	0.12	. .	. .	0.04	0.03	0.18	. .	. .
51	Stratford, N.H.	. .	. .	*	0.48	. .	*	0.16	. .	T	*	0.23	0.04	. .	*
34	Berlin Mills	. .	. .	. .	1.00	. .	0.18	. .	. .	. .	0.21	. .	. .	. .	. .
47	North Conway	. .	. .	1.03	. .	. .	0.59	. .	. .	. .	0.08	0.17	. .	. .	. .
49	Plymouth	. .	. .	0.44	0.50	. .	0.47	0.07	. .	. .	0.22	*	0.11	. .	. .
39	Hanover	. .	. .	0.23	0.67	. .	0.22	. .	. .	. .	0.05	. .	0.08	. .	0.02
40	Lake Village	. .	. .	0.81	. .	0.07	0.39	. .	. .	. .	0.12	0.12	. .	. .	. .
37	Concord	. .	. .	0.89	. .	. .	0.52	. .	. .	. .	0.06	. .	0.11	. .	. .
52	Walpole	. .	. .	. .	. .	0.70	0.50	. .	. .	. .	. .	. .	0.11	. .	. .
45	Nashua	. .	. .	0.99	0.30	T	0.60	. .	. .	. .	T	T	0.08	. .	. .
78	Lunenburgh, Vt.	. .	. .	*	1.00	. .	*	0.30	. .	*	0.20	. .	. .	0.10	. .
73	Burlington	. .	0.01	*	0.64	0.02	0.07	. .	. .	. .	0.04	*	0.04	0.02	. .
82	Northfield	. .	. .	0.20	0.24	0.01	0.12	0.03	. .	T	0.01	0.01	0.01	0.01	. .
75	Cornwall	. .	. .	0.90	. .	. .	0.21	. .	. .	. .	. .	0.20	. .	. .	. .
74	Chelsea	. .	. .	0.42	0.61	0.05	0.42	0.03	. .	T	0.10	0.03	0.07	. .	. .
79	Manchester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	. .	*	0.90	0.08	0.35	0.20	. .	. .	0.07	. .	0.06	. .	. .
159	Salem, Mass.	. .	. .	*	1.39	*	*	0.54	. .	. .	. .	. .	0.07	. .	. .
149	Newburyport	. .	. .	0.93	0.53	0.02	0.49	0.22	. .	. .	T	. .	0.19	. .	. .
104	Blue Hill	. .	. .	1.02	0.34	0.09	0.07	0.11	. .	. .	T	. .	. .	. .	. .
122	Framingham	. .	. .	*	1.03	*	*	0.28	. .	. .	. .	. .	. .	. .	. .
120	Fitchburg	. .	. .	0.60	0.31	0.09	0.43	0.09	. .	. .	. .	. .	. .	. .	. .
123	Gilbertville	. .	. .	*	0.80	*	0.55	. .	. .	. .	. .	. .	. .	. .	. .
152	Northampton	. .	. .	0.40	0.29	0.12	0.58	. .	. .	. .	. .	. .	. .	. .	. .
134	Ludlow	. .	. .	0.05	0.65	0.10	0.05	0.50	. .	. .	. .	. .	. .	. .	. .
155	Provincetown	. .	. .	0.15	0.10	0.08	0.06	0.10	. .	. .	T	. .	0.04	. .	. .
146	Nantucket	. .	. .	0.02	0.18	. .	0.03	0.18	. .	. .	0.01	0.01	0.02	. .	. .
114	Cotuit	. .	. .	0.05	0.16	0.02	. .	0.25	. .	. .	0.01	. .	. .	. .	. .
153	Plymouth	. .	. .	*	0.10	0.16	. .	. .	. .	. .	. .	. .	. .	. .	. .
148	New Bedford	. .	. .	*	0.43	0.03	0.24	. .	. .	. .	. .	. .	. .	. .	. .
163	Taunton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
202	Bristol, R. I.	. .	. .	*	0.55	0.02	*	0.23	. .	. .	. .	. .	. .	. .	. .
207	Providence	. .	. .	*	1.17	*	*	0.31	. .	. .	. .	. .	. .	. .	. .
201	Block Island	. .	. .	0.14	0.08	. .	. .	0.35	. .	. .	. .	. .	. .	. .	. .
233	Voluntown, Conn.	. .	. .	1.18	0.15	T	0.10	0.10	. .	. .	. .	. .	. .	. .	. .
229	New London	. .	. .	1.20	0.15	T	0.10	0.15	. .	. .	. .	. .	T	. .	. .
224	Hartford	. .	. .	0.64	T	0.12	0.20	. .	. .	. .	. .	. .	. .	. .	. .
234	Wallingford	. .	. .	0.66	. .	. .	. .	0.48	. .	. .	. .	. .	. .	. .	. .
235	Waterbury	. .	. .	0.95	. .	. .	0.40	. .	. .	. .	. .	. .	0.03	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y.	. .	. .	0.07	0.13	0.07	0.13	0.02	. .	. .	T	0.01	0.11	. .	. .
258	Poughkeepsie	. .	. .	0.53	. .	0.04	0.33	. .	. .	. .	. .	. .	. .	. .	. .
253	Carmel	T	. .	0.06	0.36	. .	0.38	. .	. .	. .	T	. .	T	. .	. .
255	New York	T	0.02	0.79	0.15	. .	0.26	0.07	0.06	0.02	T	. .	T	. .	. .
256	Setauket	. .	T	0.85	0.15	. .	0.16	0.09	0.03	T	. .	. .	0.03	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	. .	. .	0.59	. .	. .	*	0.54	. .	. .	. .	. .	2.04	. .	0.18	. .	. .
4	. .	. .	. .	0.47	. .	. .	0.06	0.08	. .	. .	. .	. .	0.50	. .	0.10	. .	. .
2	. .	. .	0.03	0.79	. .	. .	*	0.20	. .	. .	. .	*	2.65	. .	0.01	. .	. .
5	. .	. .	*	0.65	. .	. .	0.18	. .	. .	. .	. .	*	1.23	. .	0.03	. .	. .
6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	. .	. .	*	1.20	. .	. .	. .	. .	. .	. .	. .	*	1.20	. .	. .	. .	. .
8	. .	. .	0.20	1.83	. .	. .	0.11	0.01	. .	. .	. .	0.75	0.76	. .	0.08	. .	. .
12	. .	. .	0.04	1.36	. .	. .	0.03	0.03	. .	. .	. .	0.56	0.86	. .	0.07	. .	. .
51	0.45	. .	. .	0.54	. .	. .	*	0.30	. .	. .	. .	*	0.70	. .	. .	. .	. .
34	. .	. .	*	1.40	0.05	. .	0.10	. .	. .	. .	. .	1.23	. .	. .	0.13	. .	. .
47	. .	. .	1.95	. .	. .	. .	. .	. .	. .	. .	. .	2.16	. .	. .	. .	. .	. .
49	. .	. .	0.08	0.57	. .	. .	0.10	0.04	. .	. .	. .	0.59	0.75	. .	. .	. .	. .
39	. .	. .	*	1.28	. .	. .	0.06	. .	. .	. .	. .	2.00	. .	. .	0.05	. .	. .
40	. .	. .	*	1.11	. .	. .	. .	. .	. .	. .	. .	2.30	. .	. .	0.05	. .	. .
37	. .	. .	. .	0.78	. .	. .	. .	. .	. .	. .	. .	1.47	. .	. .	T	. .	. .
52	. .	. .	*	1.00	. .	. .	. .	. .	. .	. .	. .	*	1.60	. .	. .	. .	. .
45	. .	. .	0.54	0.15	. .	. .	T	. .	. .	. .	. .	2.17	0.20	. .	. .	. .	. .
78	.	0.10	. .	*	0.40	. .	0.10	. .	. .	0.10	. .	0.20	0.40	*	0.20	. .	. .
73	0.03	. .	0.10	0.05	0.35	. .	0.03	. .	0.02	0.03	. .	0.40	0.03	. .	0.02	. .	. .
82	. . .	. .	T	0.62	0.06	. .	0.04	0.04	. .	T	. .	0.34	0.16	0.01	T	. .	. .
75	. .	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .	0.90	0.18	. .	0.05	. .	. .
74	. .	. .	0.10	0.43	T	. .	0.11	0.13	. .	. .	. .	*	0.75	T	0.07	. .	. .
79	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	. .	. .	0.48	0.80	. .	. .	0.20	T	. .	0.02	. .	0.94	0.87	. .	0.05	0.03	. .
159	. .	. .	*	1.64	. .	. .	T	. .	T	. .	. .	1.23	0.75	. .	. .	. .	. .
149	. .	T	0.80	0.55	. .	. .	0.02	. .	. .	0.01	. .	1.40	0.35	. .	T	. .	. .
104	. .	T	1.20	0.93	. .	. .	T	T	0.01	0.01	. .	0.77	0.68	. .	T	0.03	. .
122	. .	. .	*	2.12	. .	. .	. .	. .	. .	. .	. .	*	1.72	. .	. .	*	0.05
120	. .	. .	0.20	0.28	. .	. .	0.01	. .	. .	. .	. .	1.30	0.40	. .	. .	T	. .
123	. .	. .	*	0.90	. .	. .	0.03	0.04	. .	. .	. .	*	1.30	. .	0.08	0.05	. .
152	. .	. .	0.47	. .	. .	. .	0.04	. .	. .	. .	. .	1.14	0.17	. .	. .	. .	0.04
134	. .	. .	0.20	0.52	. .	. .	0.15	. .	. .	. .	. .	*	1.15	. .	0.02	*	0.02
155	. .	T	0.96	0.22	. .	. .	T	0.01	0.01	T	. .	1.16	0.58	. .	T	0.01	T
146	. .	. .	0.89	0.21	. .	. .	. .	0.05	. .	0.05	. .	0.20	0.81	. .	0.02	0.01	0.01
114	. .	. .	1.57	. .	. .	. .	. .	0.10	. .	. .	. .	1.62	. .	. .	. .	. .	0.07
153	. .	. .	*	1.55	. .	. .	. .	0.04	. .	. .	. .	*	1.76	. .	. .	. .	. .
148	. .	. .	1.64	. .	. .	. .	0.10	. .	0.02	. .	. .	2.49	. .	. .	. .	0.07	. .
163	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
202	. .	. .	*	2.23	. .	. .	*	0.05	. .	. .	. .	*	1.85	. .	. .	*	0.02
207	. .	. .	*	1.94	. .	. .	*	0.03	. .	. .	. .	*	1.78	. .	. .	0.05	. .
201	. .	. .	1.12	0.04	. .	. .	. .	0.10	T	0.04	. .	0.23	0.38	. .	. .	. .	0.01
233	. .	. .	1.50	0.45	. .	. .	0.10	. .	. .	. .	. .	1.45	T	. .	T	T	T
229	. .	. .	1.00	0.40	. .	. .	0.01	0.05	. .	0.01	. .	0.61	0.25	. .	T	. .	T
224	. .	. .	0.91	0.06	. .	. .	0.02	. .	. .	. .	. .	*	1.51	. .	T	0.02	. .
234	. .	. .	1.25	0.53	. .	. .	0.06	. .	. .	. .	. .	*	1.20	. .	. .	T	T
235	. .	. .	*	2.58	. .	. .	0.05	. .	. .	. .	. .	1.16	. .	. .	0 04	. .	. .
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	. .	. .	0.06	0.90	. .	. .	0.02	0.02	. .	T	. .	1.08	0.30	0.02	T	T	. .
258	T	. .	*	1.27	. .	. .	0.11	. .	. .	. .	. .	1.61	. .	. .	0.03	T	0.08
253	. .	. .	0.89	0.79	. .	. .	0.11	. .	. .	. .	. .	0.87	0.49	. .	0.04	. .	. .
255	. .	T	1.75	0.17	. .	. .	. .	. .	T	. .	. .	0.97	1.14	. .	0.02	. .	T
256	. .	. .	3.20	0.17	. .	. .	0.02	. .	T	. .	. .	0.93	. .	. .	0.02	. .	. .

T Trace, when precipitation is less than 0.01 inch.

FIVE-YEAR TABLES OF TEMPERATURE AND PRECIPITATION FOR NEW ENGLAND

BY

J. WARREN SMITH

WITH AN INTRODUCTION BY WILLIAM MORRIS DAVIS, DIRECTOR OF THE SOCIETY.

INTRODUCTION.

One of the chief objects of our society is to gather and preserve meteorological records for New England, from which in time a full series of climatic data may be determined. Thus far, in the attempt to prepare such general results as isothermal maps or maps of mean annual rainfall, we are met with two difficulties: our reporting stations are not numerous enough, especially in northern New England, to define with accuracy the small climatic differences with which we are concerned; and in the second place, many of our stations have been established for so few years that their means are not yet trustworthy for a climate so variable as that of New England. It is true that on maps of a small scale, such as are generally prepared for the United States as a whole, it is already possible to draw climatic lines with a fair degree of accuracy; but it is the province of our State Weather Services, with which our New England Meteorological Society is classed, to attempt the preparation of tables and maps that shall portray the peculiarities of local climate on a finer scale than that which suffices very well for the country as a whole. If any student of this subject will chart the data already existing for New England, and add thereto what can be obtained from adjacent areas, he will then find that in drawing the climatic lines, precisely such records are wanting as would be required for a work of high accuracy: and although the matter seems to be a small one, it is to the discussion and the settlement of these small matters that our State Services may best turn their efforts.

The most effective manner in which the elements now doubtful or missing could be determined would be by the establishment of a sufficient number of new stations, well distributed, and the regular maintenance of their records, along with those already begun, for a term of twenty or thirty years: but we are naturally impatient at so deliberate a process and we wish moreover to utilize to the fullest degree possible the many records of earlier observers. Our annual reports explain our efforts at the establishment of new stations in unrepresented districts; we shall still persist in this work, and hope to secure new observers who shall manifest the same persevering care that characterizes those already associated with us. It is to be hoped that we shall at least enter the next century with a band of observers from whose continued labors a full determination of the New England climate shall result. The more fully these observers apprehend our needs and our objects, the greater return we may have from them: intelligence, perseverance, careful accuracy and the neatness that goes with it, forethought towards the perpetuation of a constant record, are all required in a high degree from our colleagues.

Turning our attention to records already made, we are confronted with many difficulties. Some records are for brief periods at various dates: it does not suffice to employ these without discrimination, and assume that their means are true without further discussion. In too many cases it is unfortunately now impossible to determine the accuracy of the instruments that have been employed or the arrangement of their exposure; and it is indeed grievous to reflect upon the amount of labor that has been bestowed upon meteorological observation, whose results are tainted with the quality of uncertainty, all of which might have been avoided by a little effort at the beginning. It is for this reason that our Council has attempted to verify the instruments employed by comparison with standards: and observers who have not yet thus ascertained the quality of their records are urged to correspond with us to this end.

The treatment of records for different periods of years—for example, at one station from 1857 to 1873; at another from 1862 to 1871 — has been ably discussed by Dr. Julius Hann of Vienna, who has shown that such records, in a latitude of variable conditions like ours, are not directly comparable; one may include a series of wet or warm years that the other avoids. But by comparing the results of such stations with the results for the corresponding years at neighboring stations whose records extend continuously over the entire interval, as from 1850 to 1880, it is found possible to determine corrections by which the results of the briefer periods may be reduced, with satisfactory accuracy, to the true mean of the long period, and thus made justly comparable, one with another. This manner of reduction has not yet been applied in

New England, because our standard records, by which others could be reduced to a normal period, are not yet accumulated in sufficient number; nor will they be until perhaps the close of the century; but as a preparation for work then to be undertaken in greater extension, we have prepared the tables here following. Their publication in normal five-year periods, or pentads, has not been made hitherto; it has the advantage of a beginning towards a reduction to uniform and standard periods, after which further reduction may be attempted. No attempt has been made to discuss the data given or to see what results might be obtained, but merely to give as accurately as possible the five years normals from the data obtained. In collecting and tabulating the data none have been used that were known to be unreliable, and whenever questionable, proper notes have been entered. No means have been used for less than four years and no period entered that did not contain at least six complete monthly pentads. No pentad has been used during which it is known that the instruments were moved so as to affect the results, except such official stations as the Harvard College Observatory and the Yale College Observatory, where it is understood that care was taken to avoid the admission of errors; and in these cases, all the information regarding the changes has been given in the notes.

If any of our observers or correspondents have information of the existence of New England records not here represented, they are requested to send information of them to the Director of the Society.

EXPLANATION OF PENTAD TABLES.

Table XI (List of Stations and Observers) contains all stations in New England from which we have data in the following pentad tables. In column 1 is given the station numbers, the same numbers being retained for our regular stations as are used in the monthly bulletins, while for other stations we have begun the numbers at 501: in all discussions of the pentad tables whether in this volume or in succeeding ones, reference can thus be made to any station record by its number without confusion. Column 2 gives the states, and the stations in each state, arranged in alphabetical order. Columns 3 and 4 contain the latitude and longitude, respectively, of the stations, given to the nearest minute of arc as determined from the observers' reports or from Smithsonian Contributions No. 277. Column 5 gives the elevation in feet from the same sources as the latitude and longitude: an asterisk in this column indicates that the elevation is estimated. Column 6 indicates in which of the pentad tables the data are presented for the several stations: T showing only temperature, P, only precipitation, and B, both temperature and precipitation. Column 7 shows the source from which the records are obtained or, if published, where they may be found: whenever reference is made to the New England Meteorological Society or to the Chief Signal Office, it is to be understood that the original records are there on file or that information can there be given concerning the originals. The small figures in this column refer to the notes at the end of the tables. Column 8 shows the hours at which the temperature observations were taken: as there are no fully satisfactory tables for reducing to the true daily mean, the mean obtained from the hours of observation is printed, unless otherwise indicated in the notes. Column 9 gives the names of the observers or the source through which the records were instituted or obtained. Most of the data in this column, when referring to old records, was taken from Smithsonian Contributions No. 277.

Tables XII and XIII show respectively the mean monthly temperature and mean monthly precipitation for periods of five years each. Column 1 gives the station numbers corresponding to those in table XI. Column 2 contains the states, and stations in alphabetical order and column 3 gives the first year of the pentad for which the figures at the right are the mean. For example, in table XII, station No. 1 (St. John), the figures in the first line of columns 4 to 15 are the mean monthly temperatures for the five years 1861 to 1865, inclusive: in the second line, from 1866 to 1870, and so on. Column 16 gives the mean annual temperature or mean annual precipitation for the five year periods.

EXPLANATION OF SYMBOLS AND LETTERS OF REFERENCE IN TABLE XI.

Column 5:
*—Elevation estimated.

Column 6:
T—Temperature observations: See table XII.
P—Precipitation observations: See table XIII.
B—Both temperature and precipitation observations.

Column 7:
A—American Almanac.
B—Blodget's Climatology of the United States, page 68.
C—Report on the Capacity of the Sudbury River and Lake Cochituate Water Sheds in time of Drought, by Desmond FitzGerald.
E—New England Meteorological Society.
H—Annals of Harvard College Observatory.
K—Memoirs of the American Academy.
L—Thirteenth annual report of the Board of Water Commissioners of the city of New London, Conn.
M—Monthly Weather Review.
N—Annual reports of the Chief Signal Officer.
P—Patent Office and Smithsonian Institution, Vol. I.
R—Army Meteorological Register, 1855.
S—United States Signal Service.
Sm—Smithsonian Contributions to Knowledge, No. 204.
T—Transactions of the Connecticut Academy of Science and Arts, Vol. I, Part I, New Haven, Conn.
W—Thirty-second annual report of the Board of Water Commissioners of the city of Hartford Conn.

Column 8:
☉r—Sunrise.
☉s—Sunset.
N—Noon.

TABLE XI.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	Lat. N.	Long. W.	Elevation.	Kind of Obs.	References.	Hours of Observation.	OBSERVER.
	New Brunswick.							
1	St. John	45°17′	66°31′	140	B	E^1	6, 2, 10	Gilbert Murdoch, C. E.
	Maine.							
2	Bar Harbor	44 23	68 13	50	B	E^2		Joseph Wood.
501	Bath	43 55	69 49	50	T	A 1842	⊙r, 2, ⊙s	John Hayden.
3	Belfast	44 25	69 00	178	T	E^1	7½, 1, 6	L. H. Murch.
502	Brunswick	43 54	69 57	74	B	Sm^8	7, 1, 6	Prof. P. Cleaveland.
503	Castine	44 23	68 47	50	T	S^4		Judge Nelson.
504	Cornish	43 44	70 51	784	B	S^5	7, 2, 9	G. W. Guptill, S. West.
505	Dennysville	44 53	67 14	. .	T	S^2		T. Lincoln.
4	Eastport	44 55	66 54	53	B	MNE^6		U. S. Signal Service.
5	Fairfield	44 35	69 35	90	B	E^2		H. M. Mansfield.
506	Ft. Preble	43 39	70 14	31	B	RS	7, 2, 9	Assistant Surgeon.
507	Ft. Sullivan	44 54	66 59	70	B	R	⊙r, 9, 3, 9	Assistant Surgeon.
6	Gardiner	44 13	69 46	82	B	S^5	7, 2, 9	R. H., and F. Gardiner.
508	Hancock Bar'cks	46 07	67 49	620	B	R	7, 2, 9	Assistant Surgeon.
509	Hiram	43 51	70 52	400	T	S^2		G. Wadsworth.
7	Kent's Hill	44 25	70 05	500*	B	E^2		Prof. W. C. Strong.
8	Lewiston	44 06	70 10	185*	B	E^5	7, 2, 9	Union Water Power Co.
510	Lisbon	44 04	70 07	130	P	S		A. P. Moore.
511	North Haven	44 08	68 52	22	P	S		J. G. Spaulding.
10	Orono	44 54	68 40	129	B	E^5	7, 2, 9	Prof. M. C. Fernald.
11	Petit Manan	44 22	67 52	16*	T	E^5	7, 2, 9	George L. Upton.
512	Portland	43 39	70 15	87	T	S	⊙r, N, 8	Marine Observatory.
12	Portland	43 40	70 16	99	B	MNE^6		U. S. Signal Service.
513	Steuben	44 31	67 58	50	B	S^5	7, 2, 9	J. D. Parker.
514	West Waterville	44 33	69 46	250	B	S^5	7, 2, 9	B. F. Wilbur.
	New Hampshire.							
32	Belmont	43 30	71 35	. .	P	E		Winnepissiogee Lake Co.
34	Berlin Mills	44 27	71 14	1100*	P	E		Q. A. Bridges.
521	Claremont	43 24	72 21	536	B	S^5	7, 2, 9	A. Chase, S. O. Meade.
522	Concord	43 12	71 29	374	T	A 1837	7, 2, 9	John Farmer.
37	Concord	43 13	71 30	283*	B	E^2		Hon. W. L. Foster.
523	Dover	43 13	70 54	150	T	A 1845	⊙r, 1, 10	A. A. Tufts.
524	Ft. Constitution	43 04	70 42	40	B	R	7, 2, 9	Assistant Surgeon.
38	Grafton	43 35	72 00	917	P	E		P. R. Kimball.
39	Hanover	43 42	72 17	603	B	M^5	7, 2, 9	Dartmouth Col. Observat'y.
525	Keene	42 56	72 16	510	T	E^2		H. S. M.
40	Lake Village	43 35	71 34	. .	P	E		Winnepissiogee Lake Co.
526	Manchester	42 59	71 28	300	T	S	⊙r, 2, ⊙s	S. N. Bell.
42	Manchester	42 59	71 28	225	B	E^5	7, 2, 9	William Little.
527	Mt. Washington	44 16	71 16	6286	B	MNE^7		U. S. Signal Service.
45	Nashua	42 46	71 29	125	B	E^1	6, 12, 6	Jackson Co.
528	No. Barnsted	43 22	71 15	. .	T	S^5	7, 2, 9	C. H. Pittman.
529	Stratford	44 40	71 39	1000	T	S^8		Branch Brown.
51	Stratford	44 40	71 35	870*	B	E^2		N. B. Waters.
52	Walpole	43 04	72 21	1128	B	E^2		E. A. Knowlton.
53	Weir's Bridge	43 36	71 34	. .	P	E		Winnepissiogee Lake Co.
55	Wolfboro	43 35	71 15	. .	P	E		Winnepissiogee Lake Co.
	Vermont.							
541	Brandon	43 49	73 03	460	B	RS^5	7, 2, 9	D. and H. Buckland.
71	Brattleboro'	42 51	72 33	335	B	E^1	7, 1, 7	W. H. Childs.
72'	Brattleboro'	42 51	72 33	160*	T	E^1	7, 1, 6	H. B. Chamberlain.
542	Burlington	44 28	73 15	346	B	S	⊙r, 1, 9	Prof. Thompson, M. Petty.
543	Burlington	44 29	73 15	268	P	S		U. S. Signal Service.
73	Burlington	44 29	73 15	220*	P	E		W. B. Gates.
74	Chelsea	44 00	72 32	1300*	B	E^5	7, 2, 9	H. L. Bixby
75	Cornwall	43 57	73 12	. .	P	E		C. H. Lane.
544	Craftsbury	44 40	72 23	1100	B	E^9	7, 2. 9	Various Observers.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	Lat. N.	Long. W.	Elevation.	Kind of Obs.	References.	Hours of Observation.	OBSERVER.
	Vermont.							
545	Fayetteville	42°57′	72°36′	350	P	S^{10}	....	Gen. M. Field.
77	Jacksonville	42 48	72 50	1250*	B	E^{1}	7, 1, 7	J. W. Hatch.
78	Lunenburgh	44 27	71 41	1210	B	E^{5}	7, 2, 9	H. A. Cutting, Ph. D.
546	Newbury	44 06	72 07	420	T	S	6, N, 6	D. Johnson.
81	Newport	44 55	72 20	700	B	E^{5}	7, 2, 9	Rev. E. P. Wild.
547	Randolph	43 55	72 36	700	B	S^{11}	7, 2, 9	Various Observers.
83	Strafford	43 52	72 24	500	B	ME^{5}	7, 2, 9	H. F. J. Scribner.
85	Vernon	42 47	72 32	310	B	E^{1}	7, 1, 7	A. Whithead.
548	Williamstown	44 08	72 34	1000	T	S	⊙r, 1, 9	Paine.
549	Woodstock	43 36	72 31	650	P	S	....	H. Daton, L. A. Miller.
	Massachusetts.							
101	Amherst	42 22	72 31	267	B	ME^{12}	7, 2, 9	Various Observers.
561	Andover	42 38	71 10	190	T	K Vol. III	⊙r, Max. ⊙s.	Rev. Jonathan French.
104	Blue Hill	42 13	71 07	640	B	HE	Hourly	Blue Hill Observatory.
562	Boston	42 21	71 03	82	P	C	....	Dr. Enoch Hale.
563	Boston	42 21	71 03	82	B	KV. VI^{13}	7, 2½, 9	Johathan P. Hall.
564	Boston	42 21	71 03	. .	T	^{14}	....	Robert Treat Paine.
107	Boston	42 20	71 05	7	P	CE^{15}	....	Various Observers.
106	Boston	42 21	71 04	124	B	MNE^{6}	....	U. S. Signal Service.
565	Cambridge	42 23	71 07	60	B	E^{16}	....	Prof. John Winthrop.
566	Cambridge	42 23	71 07	31	T	K Vol. III	7, 2, 9	Dr. Samuel Webber.
108	Cambridge	42 23	71 08	74	B	H^{17}	....	Harvard College Observat'y.
109	Cambridge	42 23	71 06	8	B	E^{2}	....	E. C. Brooks, C.E.
567	Charlestown	42 22	71 04	60	P	K^{18}	....	Joseph Barrett, Esq.
110	Chestnut Hill	42 20	71 12	124	B	EC^{2}	....	Boston Water Works.
114	Cotuit	41 37	70 26	60*	B	E^{2}	....	Gen. J. H. Reed.
116	Deerfield	42 30	72 37	175*	T	E^{5}	7, 2, 9	James Childs.
117	Dudley	42 02	71 58	750	B	E^{5}	7, 2, 9	Nichols Academy.
118	Fall River	41 42	71 10	212	T	S^{2}	....	C. V. S. Remington.
120	Fitchburg	42 36	71 50	700*	B	E^{19}	7, 2, 9	Dr. J. Fisher.
121	Fitchburg	42 35	71 47	550*	B	E^{20}	7, 2, 9	Dr. A. P. Mason.
568	Ft. Independence	42 22	71 02	50	T	RS^{21}	7, 2, 9	Assistant Surgeon.
569	Ft. Warren	42 19	70 55	. .	T	S	7, 2, 9	U. S. Port Surgeon.
122	Framingham	42 17	71 27	160	B	E^{2}	....	Boston Water Works.
123	Gilbertville	42 17	72 13	560	B	E^{2}	....	Dr. W. E. Brown.
124	Groton	42 36	71 34	333	P	E	....	F. F. Waters, C. Wooley.
570	Heath	42 40	72 50	1500*	T	S	7, 2, 9	B. B. Cutler.
571	Kingston	42 00	70 48	65	P	S	....	G. S. Newcomb.
127	Lake Cochituate	42 17	71 25	140	B	CE^{2}	....	Boston Water Works.
572	Lawrence	42 42	71 10	143	B	S^{5}	7, 2, 9	J. Fallon.
128	Lawrence	42 42	71 13	51*	B	E^{2}	....	Essex Company.
130	Leominster	42 30	71 49	500*	P	E	....	W. B. Hosmer.
131	Long Plain	41 44	70 55	55	P	E	....	New Bedford Water Works.
573	Lowell	42 39	71 20	. .	P	C^{22}	....	Merrimack M'f'g. Co.
574	Lowell	42 38	71 19	. .	T	S	7, 2	R. and J. R. Moor.
133	Lowell	42 39	71 20	100*	B	CE^{2}	....	Props. Locks and Canals.
134	Ludlow	42 12	72 29	381	P	E^{23}	....	Various Observers.
575	Lunenburgh	42 35	71 43	450	B	S	7, 2, 9	G. A. Cunningham.
135	Lynn	42 28	70 56	40	P	E	....	Lynn Water Works.
138	Medford	42 25	71 07	7	P	E	....	R. M. Gow.
576	Mendon	42 06	71 34	. .	B	ASP	9, 3, 9	Dr. J. G. Metcalf.
577	Milton	42 16	71 06	90	T	E	⊙r, 1	Charles Breck.
140	Milton	42 15	71 06	100	B	E^{24}	....	Rev. A. K. Teele.
141	Monson	42 05	72 20	420	B	E^{2}	....	Dr. G. E. Fuller.
142	Mt. Nonotuck	42 15	72 40	880	P	E	....	Wm. Street.
143	Mystic Lake	42 26	71 09	12	P	E	....	Boston Water Works.
144	MysticP'mp'ngSta.	42 25	71 08	10	P	E	....	" " "
578	Nantucket	41 17	70 06	30	T	S	7, 2, 9	W. Mitchell.

LIST OF STATIONS AND OBSERVERS.

No.	Station.	Lat. N.	Long. W.	Elevation.	Kind of Obs.	References.	Hours of Observation.	Observer.
	Massachussetts.							
147	New Bedford	41°39′	70°56′	88	B	EM[25]		Samuel and T. R. Rodman.
148	New Bedford	41 39	70 56	48	B	E[2]		New Bedford Water Works.
149	Newburyport	42 49	70 51	73	B	E[5]	7, 2, 9	F. V. Pike.
152	Northampton	42 19	72 38	125	B	E[2]		J. M. Clark.
153	Plymouth	41 57	70 40	40*	B	E[5]	7, 2, 9	Miss L. B. Knapp.
579	Richmond	42 23	73 22	1100	T	S	7, 2, 9	W. Bacon.
580	Salem	42 31	70 53	75	T	BA	8, N, ⊙s, 10	Dr. Holyoke.
158	Salem	42 30	70 54	40*	T	E[5]	7, 2, 9	J. P. Andrews.
159	Salem	42 31	70 54	46	P	E		A. A. Smith.
160	So. Hingham	42 13	70 53	63	P	E		H. W. Cushing.
161	Springfield	42 06	72 35	204	B	E[26]	7, 2, 9	National Armory.
164	Taunton	41 54	71 06	40*	B	M[2]		A. F. Sprague.
163	Taunton	41 54	71 05	41	B	E[5]	7, 2, 9	Dr. E. U. Jones.
165	Taunton	41 54	71 06	14	B	E[2]		Taunton Water Works.
581	Topsfield	42 39	70 56	. .	B	S[27]	7, 2, 9	A. M. Merriam.
166	Waltham	42 22	71 17	40	P	EC[28]		Boston M'f'g. Co.
582	Watertown	42 21	71 11	100	P	R		Assistant Surgeon.
168	Wellesley	42 17	71 20	. .	B	E[2]		Prof. Sarah F. Whiting.
169	Westboro	42 16	71 38	. .	P	E		G. S. Newcomb.
583	Westfield	42 06	72 45	180	B	S[1]		Rev. E. Davis.
170	Williamstown	42 43	73 13	690	B	SE	7, 2, 9	Williams College Obs'y.
171	Winchester	42 27	71 08	90*	P	E		Boston Water Works.
584	Worcester	42 16	71 49	528	P	A		Lunatic Asylum.
585	Worcester	42 16	71 49	560	B	S[29]		J. B. Hall.
	Rhode Island.							
201	Block Island	41 10	71 35	27	B	MNE[6]		U. S. Signal Service.
202	Bristol	41 40	71 16	53	P	E		N. G. Herreshoff.
601	Ft. Adams	41 29	71 20	40	B	S	7, 2, 9	Assistant Surgeon.
602	Ft. Walcott	41 30	71 20	20	T	R	7, 2, 9	Assistant Surgeon.
203	Lonsdale	41 55	71 24	116	P	E		G. W. Pratt.
603	Newport	41 30	71 19	25	T	S[30]		Robert Taylor.
604	Newport	41 30	71 19	25	T	S[5]	7, 2, 9	W. H. Crandall, W. Barber.
204	Newport	41 32	71 18	75	T	E[2]		Thomas Dunn.
205	Olneyville	41 48	71 29	25	T	E[2]		C. H. Cannon.
206	Pawtucket	41 54	71 23	56	P	E		J. H. Walker.
605	Providence	41 50	71 25	150	T	E[31]		Prof. Alexis Caswell.
207	Providence	41 50	71 25	74	B	E[32]	7, 1, 9	City Engineer's Office.
208	Providence	41 50	71 25	70	B	E[2]		D. W. Hoyt.
	Connecticut.							
221	Canton	41 50	72 55	900*	P	EW[2]		G. J. Case.
621	Colebrook	42 00	73 03	1210	T	S[5]	7, 2, 9	C. Rockwell.
622	Columbia	41 41	72 18	. .	T	S[5]	7, 2, 9	W. H. Yeomans.
623	Ft. Trumbull	41 21	72 05	23	T	S	7, 2, 9	Assistant Surgeon.
624	Goshen	41 48	72 07	561	T	S	⊙r, N	Clark.
625	Hartford	41 46	72 41	60	B	S	9, 3	Rev. A. Flint, C. Hoadley.
224	Hartford	41 45	72 42	. .	P	EW[33]		Prof. Brocklesby and S. Hart.
223	Hartford	41 45	72 41	. .	B	E[2]		W. W. Ellsworth.
225	Lake Konomoc	41 26	72 10	185	P	EL		New London Water Works.
626	Lynde Pt. Lt. House	41 16	72 20	10	T	S	7, 2, 9	J. Rankin.
226	Middletown	41 33	72 39	70	B	E[34]	7, 2, 9	Prof. Johnston, H. D. A. Ward.
627	New Haven	41 17	72 57	45	B	ST[35]		Yale College.
228	New Haven	41 17	72 57	107	B	MNE[6]		U. S. Signal Service.
229	New London	41 22	72 09	47	B	MNE[6]		U. S. Signal Service.
628	Norwich	41 32	72 04	. .	P	E		H. B. Winship.
629	Pomfret	41 51	71 56	587	B	S[5]	7, 2, 9	Rev. D. Hunt.
630	Sharon	41 52	73 28	200	T	S	6, N, 6	Gov. Smith.
230	Shelton	41 19	73 08	35*	B	E[2]		Derby Gas Co.
231	Thompson	41 57	71 51	600	T	SE[36]	7, 2, 9	Miss E. D. Larned.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	Lat. N.	Long.W.	Elevation.	Kind of Obs.	References.	Hours of Observation.	OBSERVER.
	Connecticut.							
232	Uncasville	41°27′	72°05′	75	P	E	. . . .	Uncasville M'f'g. Co.
233	Voluntown	41 36	71 50	260	P	E	. . . .	Rev. E. Dewhurst.
234	Wallingford	41 26	72 50	133	B	E	. . . .	Mr. & Mrs. B. F. Harrison.
235	Waterbury	41 31	73 05	450	B	E^2 . . .	. . . .	N.J. Welton, N. Dikeman.
631	West Hartford . .	41 45	72 41	. .	P	W . . .	. . . .	Water Works.

TABLE XII.

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	New Brunswick.														
1	St. John	1861	19.3	21.6	28.7	37.7	48.0	54.9	59.8	60.0	54.9	46.2	37.5	22.9	41.0
“	“ “	1866	17.7	21.4	27.0	37.9	46.8	55.6	60.7	60.0	55.5	45.0	34.9	22.9	40.3
“	“ “	1871	18.8	19.2	27.3	36.4	45.2	54.3	60.6	60.6	55.0	47.0	31.7	20.3	39.7
“	“ “	1876	19.0	24.3	27.7	38.2	47.1	56.0	60.7	60.4	55.9	46.4	34.7	22.1	41.0
“	“ “	1881	16.2	20.2	26.3	36.8	46.5	55.2	59.6	59.8	55.0	45.1	35.4	24.6	40.0
“	“ “	1886	19.0	19.7	29.3	38.3	48.6	56.1	60.9	60.3	54.3	45.0	36.9	23.1	41.0
	Maine.														
2	Bar Harbor . . .	1886	22.0	22.2	30.4	41.4	52.4	60.5	65.3	64.1	58.2	47.3	39.3	26.8	44.2
501	Bath	1836	21.7	22.2	31.4	42.3	52.3	61.9	69.0	66.4	58.9	47.1	34.8	25.7	44.5
3	Belfast	1861	18.8	22.8	30.3	41.2	52.5	62.6	67.1	66.5	58.6	46.7	36.8	23.5	43.9
“	“	1866	18.9	22.6	28.9	42.3	50.8	62.8	68.0	65.5	57.9	46.6	35.8	23.3	43.6
“	“	1871	18.6	20.6	28.7	39.4	51.9	60.6	66.3	64.4	55.9	47.0	32.0	21.8	42.3
“	“	1876	21.0	24.8	30.9	42.5	54.0	60.9	66.8	64.8	58.4	48.6	36.9	23.9	44.5
“	“	1881	17.2	21.6	28.3	40.5	50.4	60.4	64.2	64.2	57.5	47.3	36.8	25.5	42.5
“	“	1886	19.9	21.6	30.1	42.6	52.8	60.4	65.0	63.4	56.8	45.8	37.6	24.1	43.3
502	Brunswick . . .	1811	18.3	22.4	29.4	41.8	49.8	59.8	64.8	63.6	57.1	47.4	37.6	24.0	43.0
“	“ . . .	1816	19.2	22.1	29.2	40.9	51.5	61.3	67.4	65.6	58.5	47.0	37.4	23.1	43.6
“	“ . . .	1821	17.0	21.2	31.4	41.8	54.7	62.9	68.4	65.6	*56.7*	47.1	33.1	24.3	43.7
“	“ . . .	1826	20.2	23.7	33.4	44.9	56.3	64.5	69.7	67.6	57.6	47.9	37.2	28.9	46.0
“	“ . . .	1831	23.2	24.4	33.6	44.3	53.8	62.6	68.5	66.5	59.7	50.4	38.2	22.5	45.6
“	“ . . .	1836	25.6	28.4	37.2	47.3	57.2	67.1	72.6	69.9	63.5	51.9	40.2	30.2	49.3
“	“ . . .	1841	23.4	23.5	31.9	42.7	52.4	62.1	65.9	66.3	57.9	46.4	35.8	24.1	44.4
“	“ . . .	1846	20.5	20.4	29.7	39.8	50.9	61.6	66.6	65.2	57.2	45.7	38.8	24.7	43.4
503	Castine	1811	20.5	23.3	29.4	41.4	49.3	57.8	63.5	63.9	57.0	48.4	39.0	25.7	43.3
“	“	1816	19.4	20.6	27.8	40.0	50.0	59.3	64.7	63.3	57.8	47.9	39.3	25.2	43.0
“	“	1821	20.5	23.2	32.9	51.8	50.7	50.2	64.9	64.6	58.5	48.7	37.8	28.1	44.3
“	“	1826	22.0	24.9	32.7	43.1	53.0	60.4	65.1	66.0	58.9	51.4	39.4	27.4	45.5
“	“	1831	21.6	22.1	30.4	40.9	50.2	57.6	64.4	63.0	57.7	47.8	38.0	21.3	42.9
“	“	1836	21.4	20.3	28.3	39.1	48.8	58.7	64.3	64.1	57.3	46.8	35.2	25.0	42.4
“	“	1841	22.8	22.3	30.3	41.6	50.2	59.9	63.8	65.1	59.7	48.6	37.6	25.7	44.0
504	Cornish	1856	*18.2*	*20.6*	*27.4*	39.6	52.7	63.1	68.1	65.5	*57.6*	46.1	34.5	20.1	42.8
“	“	1861	17.9	21.3	27.9	39.7	53.5	63.0	67.8	66.3	58.5	45.7	35.3	23.2	43.3
“	“	1866	19.4	19.6	27.4	41.7	52.3	64.9	70.5	66.7	59.0	46.4	34.0	22.2	43.8
505	Dennysville . . .	1816	17.1	18.5	28.7	38.8	49.9	59.3	65.4	63.8	56.4	46.1	36.7	22.1	41.7
“	“ . . .	1821	16.0	19.9	29.9	39.5	50.0	59.7	65.8	63.6	57.2	46.3	34.1	24.9	42.1
“	“ . . .	1826	18.6	21.2	29.9	40.6	52.4	60.1	65.2	64.9	56.2	49.0	35.8	26.2	43.1
“	“ . . .	1831	18.9	19.0	28.7	39.3	50.0	58.3	64.8	63.3	56.0	47.3	34.5	18.6	43.6
“	“ . . .	1836	19.6	19.4	28.8	39.4	49.0	59.0	64.9	63.4	55.5	44.2	33.7	22.2	41.6
“	“ . . .	1841	21.9	20.9	28.7	40.0	49.9	60.6	64.8	65.3	56.6	45.6	36.2	21.7	43.7
“	“ . . .	1846	20.0	19.6	29.4	39.3	51.0	61.5	66.9	65.0	57.8	48.9	38.9	24.9	43.6
“	“ . . .	1851	21.0	21.9	30.3	40.5	51.4	60.2	67.6	61.8	57.3	48.1	36.4	24.9	43.5
4	Eastport	1876	21.4	23.9	29.1	39.0	47.6	55.4	61.2	61.1	56.1	47.7	36.7	24.8	42.0
“	“	1881	18.2	22.0	27.3	38.1	46.7	55.8	60.6	61.2	55.8	46.9	37.5	26.9	41.4
“	“	1886	21.0	21.2	29.2	38.6	47.2	54.7	60.0	59.7	55.2	45.4	37.7	24.8	41.7
5	Fairfield	1886	14.5	17.1	26.9	32.1	54.5	63.5	67.5	64.6	56.9	46.5	35.1	19.5	41.6
506	Fort Preble . . .	1826	21.8	24.9	33.7	45.0	55.5	64.5	72.2	67.9	59.6	49.7	38.1	30.7	46.3
“	“ “ . . .	1831	23.1	23.9	32.4	*44.2*	*54.4*	*63.8*	69.0	66.7	59.9	50.3	37.3	23.1	45.7
“	“ “ . . .	1841	24.0	*24.1*	31.0	40.9	49.9	60.0	64.6	64.3	57.4	*46.4*	*35.4*	*27.2*	43.8
“	“ “ . . .	1866	21.5	25.1	30.4	42.9	*50.9*	*62.3*	. .	*66.3*	59.5	48.4	37.9	25.9	. .
“	“ “ . . .	1871	*20.9*	22.2	*31.2*	39.7	52.0	63.9	67.7	67.2	59.7	*51.4*	35.5	26.4	44.8
“	“ “ . . .	1876	23.7	25.7	32.0	42.8	53.8	61.8	67.9	65.9	60.2	50.1	*38.9*	26.4	47.4
507	Ft. Sullivan . .	1826	20.8	23.2	31.0	41.1	51.4	58.4	63.9	64.1	57.3	48.3	*39.0*	*29.5*	44.0
“	“ “ . .	1831	22.2	23.5	31.1	41.2	50.4	56.6	62.1	62.0	57.6	48.4	37.2	21.2	42.8
“	“ “ . .	1841	24.6	24.4	31.3	40.6	47.9	56.5	61.0	61.7	*55.1*	*46.6*	*36.2*	*26.6*	42.7
6	Gardiner	1841	19.8	20.2	29.8	41.8	53.1	63.7	68.0	67.5	57.9	44.5	33.8	21.4	43.5
“	“	1846	19.4	20.8	30.3	41.9	53.3	64.8	70.2	67.9	58.6	47.1	38.1	23.6	44.6
“	“	1861	16.1	22.2	29.8	41.1	53.7	62.2	67.1	65.9	57.9	47.2	37.3	22.9	43.6
“	“	1866	18.6	22.1	28.3	42.1	51.9	62.4	68.5	65.7	58.3	46.8	36.0	23.3	43.7
“	“	1871	17.2	18.8	25.4	39.8	53.2	62.3	68.1	66.0	57.7	48.2	32.0	20.4	42.4

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	STATION.	PERIOD.	JAN	FEB.	MAR.	APR.	MAY	JUNE.	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR.
	Maine														
6	Gardiner	1876	19.3	23.3	30.4	42.8	55.0	62.8	68.4	66.1	59.1	48.4	37.6	24.0	44.8
“	“	1881	15.7	20.2	23.7	40.2	52.4	61.7	66.5	65.6	58.5	47.5	37.3	26.0	42.9
508	Hancock Bar’cks	1831	14.4	16.2	26.6	38.7	51.0	59.3	66.0	64.3	56.1	45.6	31.5	13.9	40.5
“	“ “	1836	15.9	16.9	29.3	39.7	50.1	62.0	66.7	64.6	56.2	41.8	30.0	18.2	41.0
“	“ “	1841	16.2	16.9	27.2	38.7	48.8	59.1	63.2	65.1	*54.8*	*41.7*	*30.1*	*19.1*	40.4
509	Hiram	1831	15.5	15.8	28.6	40.9	52.1	62.0	67.3	63.8	57.5	46.4	33.0	18.1	41.8
“	“	1836	15.9	22.4	28.6	39.4	49.2	59.9	67.3	62.9	55.3	42.2	30.9	19.8	40.8
“	“	1841	18.7	19.9	28.4	40.6	51.6	61.7	67.4	64.9	56.1	43.8	32.5	21.2	42.2
“	“	1846	17.9	18.0	28.7	39.1	51.2	62.5	67.7	64.5	56.8	44.0	36.7	24.2	42.6
“	“	1851	18.9	18.1	28.3	37.9	52.6	60.8	67.6	63.7	56.4	45.5	31.3	22.0	42.0
“	“	1856	14.7	18.3	28.2	38.7	51.9	62.2	66.0	63.5	56.1	44.3	33.1	19.9	41.4
7	Kent’s Hill	1886	16.1	17.0	26.8	40.5	53.5	62.1	*66.4*	*65.2*	56.6	44.3	34.7	20.3	42.0
8	Lewiston	1886	17.2	18.3	27.9	40.0	53.5	63.3	68.3	65.2	57.3	44.5	35.0	21.6	42.5
10	Orono	1871	14.7	17.0	26.7	38.1	51.8	61.7	67.6	65.7	56.3	46.5	29.6	17.5	41.1
“	“	1876	15.8	20.7	28.1	41.1	54.0	62.4	68.3	66.2	58.2	46.7	34.2	20.5	43.0
“	“	1881	13.4	19.0	26.2	39.6	51.2	62.4	66.7	66.1	57.7	45.9	35.5	23.8	42.4
“	“	1886	16.6	18.6	28.5	40.7	53.7	62.3	67.2	64.3	56.8	44.4	36.0	21.9	42.6
11	Petit Menan	1886	*25.8*	*25.2*	*29.8*	*41.6*	*49.8*	55.8	60.0	59.6	54.8	45.6	38.9	*27.3*	42.8
512	Portland	1821	18.0	21.4	30.8	40.4	50.4	60.6	66.0	64.6	58.0	46.8	35.0	25.4	43.1
“	“	1826	19.2	22.4	30.8	41.6	52.8	60.6	66.0	65.2	57.6	47.5	36.4	28.3	44.0
“	“	1831	19.6	20.6	30.0	40.0	50.2	59.4	66.2	64.0	57.0	47.2	35.0	19.6	42.4
“	“	1836	19.0	19.4	29.2	38.6	49.0	58.6	65.8	63.4	55.8	44.2	33.0	23.2	41.5
“	“	1841	21.4	20.8	29.2	40.0	49.8	60.0	64.8	65.0	57.2	45.0	35.0	23.2	42.6
“	“	1846	21.2	20.8	29.8	40.4	49.0	61.2	66.8	65.4	58.8	46.0	38.4	27.6	43.8
12	Portland	1876	25.8	28.4	34.3	45.4	56.8	64.7	70.5	68.5	61.4	51.8	40.0	28.6	48.0
“	“	1881	22.8	26.5	32.5	44.9	54.3	65.1	68.9	67.7	61.1	50.5	40.2	30.3	47.1
“	“	1886	20.9	22.3	30.2	42.1	53.0	62.0	67.2	65.2	57.6	46.2	38.1	25.6	44.2
513	Steuben	1856	18.1	20.5	28.9	38.8	49.5	59.1	64.2	62.2	55.9	45.4	35.8	22.1	41.7
“	“	1861	19.1	22.6	29.2	38.8	49.4	58.6	63.3	62.7	55.7	45.9	37.2	23.3	42.1
514	West Waterville	1866	18.1	20.6	28.5	42.0	52.5	64.8	70.4	67.0	59.2	47.0	34.8	22.5	44.0
	N. Hampshire.														
521	Claremont	1861	19.8	22.9	30.5	43.7	56.5	65.2	68.9	67.4	59.8	47.2	37.5	25.0	45.4
522	Concord	1831	21.9	22.7	31.5	44.4	45.3	63.3	66.8	66.3	57.5	47.7	36.2	22.5	43.7
37	Concord	1871	19.4	21.5	30.5	42.0	57.1	65.5	71.0	69.3	60.5	50.8	33.8	22.5	45.3
“	“	1876	22.7	27.6	33.7	46.3	59.2	66.6	72.3	69.5	62.1	52.3	39.5	27.5	48.3
“	“	1881	19.5	23.5	30.2	44.5	55.7	65.3	69.3	67.8	61.6	50.3	38.6	27.8	46.2
“	“	1886	22.3	24.8	31.0	45.1	57.5	64.5	69.0	66.3	58.9	47.0	38.1	26.4	45.9
523	Dover	1836	22.0	23.3	31.8	42.6	53.6	63.8	70.4	66.7	58.4	46.2	35.1	25.7	45.0
524	Ft. Constitution	1826	25.4	28.0	34.9	44.9	56.2	62.8	68.0	66.5	59.6	50.7	40.4	32.9	47.5
“	“ “	1831	24.5	26.1	34.2	43.3	52.8	61.5	66.6	64.9	58.7	50.0	39.4	25.5	45.6
“	“ “	1836	24.7	24.5	32.3	41.8	50.5	59.5	65.6	63.1	57.5	*48.3*	*36.6*	*28.7*	44.0
39	Hanover	1836	16.4	18.7	28.4	39.7	53.5	61.8	67.6	64.2	56.5	41.9	31.5	20.2	41.7
“	“	1841	19.3	19.8	29.9	41.9	52.8	62.1	65.3	66.6	56.7	43.4	33.1	21.3	42.7
“	“	1846	18.0	17.8	28.8	39.6	53.7	63.8	67.7	68.7	53.4	44.3	37.4	23.5	42.7
“	“	1861	*18.2*	*20.8*	29.7	42.4	*55.6*	64.7	68.5	. .	58.0	47.2	36.3	. .	. .
“	“	1866	*17.2*	*19.6*	27.1	41.5	53.9	66.5	69.3	. .	57.7	45.0	33.0	20.8	. .
“	“	1871	17.8	16.1	25.9	39.4	54.9	65.2	68.5	*66.7*	56.5	45.8	28.8	18.6	41.6
“	“	1876	18.0	20.7	28.5	43.1	57.2	65.7	69.8	67.4	57.8	47.1	34.0	20.6	44.2
“	“	1881	14.7	18.9	25.5	40.0	54.4	65.4	69.0	66.8	59.0	46.4	34.3	23.5	43.2
“	“	1886	17.6	17.8	27.3	41.8	56.3	64.4	68.6	64.1	56.4	43.7	34.6	20.9	42.9
525	Keene	1386	21.7	23.9	30.5	44.4	57.9	64.8	68.5	65.3	58.7	46.4	37.7	25.5	45.6
526	Manchester	1846	25.7	24.2	33.7	45.7	56.2	68.0	73.0	70.3	62.8	50.2	42.3	29.8	48.5
“	“	1851	24.3	25.7	35.0	44.2	59.4	68.0	74.1	68.8	62.1	*50.8*	38.1	27.0	48.2
42	Manchester	1886	23.3	24.0	31.3	45.0	58.4	66.4	70.1	67.0	59.6	47.1	37.2	26.3	46.3
527	Mt. Washington	1871	*5.3*	*6.8*	*10.5*	*18.6*	*31.8*	42.7	47.1	47.1	*39.4*	29.7	13.5	7.7	25.2
“	“ “	1876	5.9	7.3	12.8	22.7	35.0	44.8	48.9	47.5	40.7	30.7	18.1	8.5	26.9
“	“ “	1881	2.6	6.9	8.3	19.7	36.0	45.8	46.8	46.6	41.7	30.2	18.7	11.4	26.2
45	Nashua	1886	22.7	24.5	31.5	44.8	57.3	65.3	69.9	66.4	59.1	46.9	38.8	27.4	46.2
528	No. Barnstead	1861	21.3	24.9	31.5	42.9	55.4	64.3	69.0	68.7	61.4	48.7	39.3	27.3	46.3

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	New Hampshire.														
529	Stratford	1861	15.3	17.5	24.9	37.7	50.7	60.0	64.2	62.2	53.9	42.0	32.3	18.6	39.9
“	“	1866	14.3	16.5	23.4	38.0	49.6	62.7	67.4	62.4	55.4	42.3	30.1	16.8	39.9
51	Stratford	1886	*17.4*	*19.4*	*28.3*	*41.1*	*57.4*	*65.2*	69.8	66.1	57.9	45.1	35.0	20.4	43.6
52	Walpole	1886	17.9	19.5	25.9	41.2	54.7	62.4	67.1	64.4	56.7	43.3	34.5	21.7	42.4
	Vermont.														
541	Brandon	1856	17.0	20.9	29.0	41.1	54.5	64.3	68.5	65.6	57.4	45.6	35.5	21.3	43.4
71	Brattleboro' . .	1886	21.4	22.7	30.5	45.5	58.1	64.9	69.6	66.0	58.2	45.6	37.2	25.1	45.4
72	Brattleboro' . .	1886	21.7	23.0	30.6	45.5	59.7	64.3	*68.1*	*66.7*	58.3	46.2	38.9	26.0	45.8
542	Burlington . . .	1841	21.4	20.4	30.4	44.2	54.5	64.9	67.7	68.7	59.4	46.7	34.9	23.2	44.7
“	“ . . .	1846	20.8	18.7	30.2	41.8	55.2	65.6	70.3	67.8	59.5	46.8	39.9	24.4	45.1
74	Chelsea	1886	15.7	16.9	24.0	39.3	53.0	59.5	63.2	60.1	53.7	*41.2*	*32.8*	*21.4*	40.1
544	Craftsbury . . .	1856	13.9	17.0	25.5	37.8	51.7	61.8	65.3	63.1	55.1	43.1	32.0	17.0	40.3
“	“ . . .	1861	16.1	18.6	25.6	38.4	51.1	60.4	63.7	62.5	54.9	42.1	32.1	19.5	40.4
“	“ . . .	1866	15.1	17.4	24.0	39.0	49.7	63.5	67.8	62.8	55.0	42.1	30.1	17.8	40.4
“	“ . . .	1871	*14.0*	*14.8*	22.8	36.1	51.3	63.3	67.4	64.6	54.6	*43.4*	*24.8*	*15.6*	39.4
“	“ . . .	1876	17.4	19.3	27.2	41.3	56.5	66.3	70.6	67.6	59.5	47.5	34.1	19.3	43.9
77	Jacksonville . .	1886	19.4	20.0	27.5	40.4	54.6	62.0	66.1	62.0	54.8	41.8	34.3	23.4	42.2
78	Lunenburgh . .	1851	19.0	13.9	25.6	36.6	50.9	64.3	68.1	67.0	56.6	43.2	29.4	20.0	41.2
“	“ . .	1856	16.1	19.3	24.7	34.8	52.4	64.3	65.6	64.3	55.0	43.5	33.3	18.8	41.1
“	“ . .	1861	18.5	20.0	27.5	39.7	53.4	65.2	67.8	67.9	56.4	45.1	31.4	21.3	42.8
“	“ . .	1866	15.4	17.8	24.8	38.8	50.7	65.9	71.2	64.9	55.8	45.0	33.9	18.2	41.9
“	“ . .	1871	13.4	15.2	24.4	36.8	52.8	63.9	68.7	66.5	56.5	45.6	26.7	16.0	40.6
“	“ . .	1876	16.3	19.2	27.2	40.4	53.5	63.0	67.5	64.7	57.2	45.3	32.6	19.0	42.1
“	“ . .	1881	11.3	16.8	23.0	37.8	54.0	62.4	65.8	64.3	57.6	44.6	32.6	21.8	41.0
“	“ . .	1886	16.8	19.5	29.6	42.0	57.5	64.3	69.1	66.3	58.9	45.0	35.3	20.3	43.7
546	Newbury	1841	20.0	19.4	29.7	43.0	52.2	64.4	67.4	68.3	58.1	44.5	34.2	21.5	43.6
81	Newport	1871	*14.1*	*14.8*	22.8	36.1	51.3	63.3	67.8	64.6	56.6	*43.4*	*24.8*	*15.8*	39.6
“	“	1876	17.4	19.3	26.8	41.3	56.5	66.3	70.6	67.6	59.5	47.6	38.1	19.3	44.2
“	“	1881	11.8	17.2	23.5	38.6	55.9	64.7	68.0	66.7	59.0	*45.6*	*34.3*	22.2	42.3
547	Randolph	1866	16.9	19.1	25.1	40.4	52.8	65.5	70 0	65.1	57.5	44.3	33.2	20.2	42.5
83	Strafford	1876	19.0	20.5	29.1	41.9	57.3	65.4	69.8	67.6	59.1	47.7	33.5	20.1	44.2
“	“	1881	13.1	17.7	24.0	39.9	55.2	64.9	68.3	67.6	60.7	47.7	35.2	23.4	43.1
“	“	1886	13.6	17.9	25.9	42.5	57.1	65.8	69.7	66.4	58.4	44.9	35.6	*21.4*	43.3
85	Vernon	1886	20.6	23.4	30.8	45.6	59.1	66.8	71.1	67.3	60.1	47.2	38.4	25.9	46.4
548	Williamstown . .	1831	15.5	16.2	25.5	38.6	50.6	59.3	64.6	61.6	53.0	43.4	30.2	15.4	39.5
“	“ . .	1836	15.0	16.3	25.8	36.8	49.3	59.2	64.6	61.0	53.3	40.1	28.6	16.8	38.9
	Massachusetts.														
101	Amherst	1836	22.9	25.9	35.1	47.3	58.3	66.8	72.2	69.2	61.4	49.0	37.2	26.6	46.0
“	“	1841	23.9	22.8	33.3	46.1	55.4	66.0	70.0	69.6	59.7	46.5	36.3	26.1	46.3
“	“	1846	25.0	23.1	33.2	44.6	56.4	66.3	71.4	69.1	60.3	47.2	40.8	28.4	47.1
“	“	1851	23.6	24.3	32.7	43.4	56.9	65.5	70.6	66.7	60.2	49.7	37.8	25.9	46.4
“	“	1856	21.4	24.3	32.4	43.8	55.9	65.3	69.5	67.1	57.1	48.7	38.9	25.5	45.8
“	“	1861	23.0	26.2	32.5	45.4	56.9	64.6	69.8	68.7	60.4	49.0	39.3	28.2	47.0
“	“	1866	23.9	25.8	30.9	46.2	45.6	66.8	71.5	67.8	60.8	48.7	37.9	25.4	45.9
“	“	1871	22.8	23.2	31.4	43.1	57.0	66.6	69.9	68.4	58.8	48.9	33.9	26.2	45.8
“	“	1876	25.7	27.2	34.1	46.9	59.6	67.6	72.3	69.0	61.6	50.7	38.8	27.1	48.4
“	“	1881	21.5	25.2	31.4	45.3	57.6	66.9	70.2	68.9	62.6	50.5	41.4	30.0	47.6
“	“	1886	25.1	25.9	33.4	47.0	59.2	66.1	70.7	67.2	59.5	48.1	40.3	28.9	47.6
561	Andover	1801	25.9	27.5	36.3	46.6	57.9	67.4	71.5	70.6	62.3	50.2	39.1	32.4	49.0
104	Blue Hill	1886	24.5	25.1	30.3	42.9	54.5	62.6	67.6	65.1	58.4	46.9	39.5	28.4	45.5
563	Boston	1821	25.9	28.8	36.4	46.4	56.3	66.6	72.2	69.4	62.3	51.5	40.2	31.9	49.0
“	“	1826	27.1	30.8	36.3	46.5	58.9	67.4	72.0	70.4	61.8	51.7	41.3	34.6	49.8
“	“	1831	26.8	27.7	36.1	46.0	56.0	65.7	71.8	69.3	61.5	51.8	39.9	26.9	48.3
“	“	1836	25.7	25.8	34.4	45.1	55.2	64.2	71.3	67.9	60.6	48.6	37.7	29.0	47.1
“	“	1841	29.3	27.9	36.0	46.3	56.7	67.6	71.9	69.6	61.9	50.1	39.8	30.5	49.0
“	“	1846	29.2	27.3	35.6	45.7	54.6	66.4	71.6	69.4	62.3	50.8	43.3	32.4	49.0
“	“	1851	26.8	27.5	35.1	43.8	57.2	66.7	72.6	68.8	63.0	52.8	40.5	29.6	48.7
564	Boston	1826	27.4	29.6	36.6	46.7	58.4	66.4	71.0	69.8	61.9	52.3	41.8	35.3	49.9
“	“	1831	26.7	27.6	36.3	45.8	55.9	65.4	71.0	68.9	62.0	52.2	40.1	26.5	48.3

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	Massachusetts.														
564	Boston	1836	26.2	26.0	35.1	46.0	56.0	64.9	71.8	68.9	61.7	49.8	38.7	29.6	48.0
“	“	1841	29.2	28.0	36.1	46.4	56.5	67.2	71.6	70.1	62.6	50.7	40.0	30.1	49.2
106	Boston	1871	26.3	26.8	33.7	44.1	57.4	67.0	72.5	70.4	62.2	52.7	37.3	29.1	48.3
“	“	1876	28.0	28.8	34.3	44.7	57.7	66.1	71.3	69.1	62.5	52.6	40.2	29.3	48.7
“	“	1881	24.6	27.5	32.6	43.7	52.5	65.8	70.1	68.5	62.5	51.9	41.7	32.7	47.9
“	“	1886	27.4	28.2	33.7	45.6	57.1	65.6	70.8	68.2	61.0	49.6	42.5	31.6	48.5
565	Cambridge . . .	1746	29.9	30.9	34.5	48.6	*54.6*	61.8	66.5	*61.2*	*58.4*	*44.7*	33.4	32.8	46.4
“	“ . . .	1751	32.2	33.6	37.2	44.1	53.1	61.0	63.3	59.9	54.4	46.6	39.1	30.3	46.2
“	“ . . .	1756	28.4	31.7	34.6	*43.6*	*52.8*	59.9	63.8	64.0	55.9	48.4	38.0	30.1	46.0
“	“ . . .	1761	29.3	28.7	34.5	*46.0*	*58.0*	*62.0*	65.5	60.5	59.5	43.5	35.6	31.9	46.2
“	“ . . .	1766	30.1	31.1	33.6	52.5	62.7	61.6	66.8	58.9	51.3	42.4	30.4	32.2	46.1
566	Cambridge . . .	1791	25.2	26.0	39.9	50.1	58.6	69.2	73.8	71.0	64.1	51.7	41.7	33.0	50.4
“	“ . . .	1796	25.9	27.5	33.3	46.8	56.1	66.6	72.5	70.6	61.5	49.0	37.2	26.6	48.0
“	“ . . .	1801	25.9	28.4	36.6	45.9	56.8	68.2	73.8	72.0	63.9	50.2	38.5	32.4	49.4
“	“ . . .	1806	22.3	26.5	31.9	45.0	56.4	66.2	71.0	69.7	60.4	51.2	37.1	31.1	47.4
108	Cambridge . . .	1841	25.5	24.6	33.2	44.7	54.7	65.7	70.4	69.0	61.1	47.5	36.8	26.4	46.6
“	“ . . .	1846	26.2	23.9	33.9	44.6	54.2	65.9	71.6	68.8	61.5	49.9	41.9	30.1	47.7
“	“ . . .	1851	24.9	26.0	33.9	43.4	56.2	66.0	72.2	67.6	61.7	51.0	38.8	27.5	47.4
“	“ . . .	1856	23.2	26.2	33.7	43.6	54.9	65.8	70.4	67.9	61.1	50.5	40.1	27.2	47.1
“	“ . . .	1861	23.3	26.4	33.4	44.8	57.3	67.1	72.3	71.1	61.8	51.0	40.1	28.2	48.1
“	“ . . .	1866	24.7	26.7	30.5	45.0	53.8	66.0	72.2	69.0	61.4	49.8	38.9	27.4	47.1
“	“ . . .	1871	23.0	24.0	31.7	42.3	56.6	66.0	71.6	69.0	60.1	50.5	35.1	26.8	46.4
“	“ . . .	1876	25.9	27.3	34.2	45.2	58.8	68.2	73.2	70.0	61.9	51.1	38.7	27.7	48.5
“	“ . . .	1881	21.8	26.2	32.2	44.7	56.4	68.9	73.0	71.7	64.3	52.8	41.0	29.3	48.5
“	“ . . .	1886	26.0	24.5	33.6	47.5	59.6	67.7	72.5	69.2	62.7	50.5	42.8	30.8	49.0
109	Cambridge . . .	1886	25.5	26.7	32.6	45.6	58.0	66.4	71.9	68.4	60.9	48.2	40.6	29.6	47.9
110	Chestnut Hill . .	1886	26.3	27.4	32.7	45.4	57.5	65.6	70.7	67.9	61.2	47.8	41.5	30.5	47.9
114	Cotuit	1886	28.7	28.9	33.2	43.7	55.0	63.5	69.3	67.9	61.7	50.0	42.8	32.3	48.1
116	Deerfield	1886	22.8	24.1	31.4	45.6	59.8	*68.1*	71.4	68.7	60.2	47.3	37.9	26.7	47.0
117	Dudley	1886	24.5	25.3	29.9	44.7	*58.4*	*64.9*	69.8	*68.6*	60.1	48.5	40.3	27.6	46.9
118	Fall River . . .	1876	*30.0*	31.2	36.5	46.1	56.9	66.5	71.6	69.4	59.8	53.6	41.4	31.4	48.7
“	“ “ . . .	1881	25.3	27.7	32.4	42.8	53.1	64.3	69.6	68.0	62.5	51.9	41.7	32.6	47.7
“	“ “ . . .	1886	28.6	28.5	32.7	44.7	55.1	64.1	68.8	67.3	61.2	49.3	42.5	32.2	47.9
120	Fitchburg	1861	22.0	25.0	30.9	42.7	55.1	65.0	69.4	69.0	60.4	48.0	38.8	27.0	46.1
“	“	1866	22.8	24.4	29.5	44.2	53.8	66.5	71.9	67.8	60.6	48.1	37.0	24.9	46.0
“	“	1871	21.0	21.9	30.0	40.4	55.4	65.7	70.1	67.8	58.7	48.3	32.2	24.5	44.7
“	“	1876	24.3	25.7	31.5	43.4	57.8	66.5	71.4	68.2	60.0	49.5	36.1	25.1	46.6
“	“	1881	19.8	23.4	28.6	41.8	54.2	65.8	69.7	67.7	60.8	48.6	37.3	28.2	45.5
“	“	1886	23.0	23.9	30.2	43.6	57.3	65.3	69.6	65.7	58.3	45.7	37.6	26.9	45.6
121	Fitchburg	1886	24.2	25.2	31.9	45.7	58.5	65.4	70.0	66.0	59.1	46.6	38.1	27.3	46.5
568	Ft. Independence	1826	27.3	28.8	36.1	46.3	57.9	*65.7*	70.0	69.2	62.5	53.8	43.3	*36.6*	49.8
“	“ “	1831	27.3	27.9	36.4	45.9	56.4	65.6	*70.2*	*69.4*	*63.0*	. .	. .	. .	. .
“	“ “	1851	*27.0*	*26.7*	*34.4*	*43.4*	57.0	65.8	73.0	69.1	63.3	52.9	40.9	29.6	48.6
“	“ “	1856	24.8	27.8	34.5	44.3	54.9	66.3	73.7	70.0	62.8	52.1	41.6	30.3	48.0
“	“ “	1866	28.1	29.4	34.0	*45.6*	54.1	*65.0*	*71.8*	*69.6*	58.6	52.2	41.3	30.3	48.3
“	“ “	1871	24.2	23.7	29.4	40.4	54.7	64.9	70.8	69.3	60.9	50.9	37.4	28.3	46.2
569	Ft. Warren . . .	1866	28.0	27.3	32.1	44.3	*52.9*	*65.2*	*71.6*	*69.6*	62.5	51.3	40.4	29.3	47.9
122	Framingham . .	1886	25.8	27.2	33.1	46.3	58.6	66.4	71.3	67.8	60.7	48.4	40.9	29.8	48.0
123	Gilbertville . . .	1886	23.7	24.2	30.7	*44.3*	. .	*65.5*	69.1	*66.0*	58.8	45.8	37.4	26.6	. .
570	Heath	1881	*17.1*	*23.0*	*26.2*	40.2	55.8	65.3	71.9	68.4	59.9	49.0	*36.8*	*27.2*	45.1
“	“	1886	20.3	*22.2*	28.6	45.2	56.8	*67.6*	*74.1*	66.9	60.7	47.4	36.5	*24.7*	45.9
127	Lake Cochituate.	1886	25.0	27.2	32.9	45.6	58.1	65.6	70.3	67.7	60.3	47.8	40.3	29.4	47.5
572	Lawrence	1866	24.0	26.0	30.8	44.3	52.3	64.9	71.0	67.8	59.4	48.3	38.2	27.0	46.2
128	Lawrence	1886	23.7	24.8	31.9	45.5	58.6	66.4	72.4	68.0	60.1	47.4	39.1	27.4	47.1
574	Lowell	1846	24.9	23.9	33.6	44.6	55.4	68.1	73.2	70.8	62.7	49.5	41.6	29.6	48.2
133	Lowell	1886	23.7	25.3	31.1	44.9	57.8	66.0	71.1	68.0	60.6	47.7	39.7	28.1	47.0
575	Lunenburgh . .	1841	29.3	27.7	36.2	45.8	54.9	65.3	69.6	68.7	60.2	69.3	39.0	30.2	48.0
“	“ . .	1846	26.1	25.8	35.5	45.4	54.2	66.4	71.2	68.2	61.2	51.2	43.7	33.1	48.5
“	“ . .	1851	27.3	28.7	36.0	43.7	57.1	66.8	70.8	67.7	62.4	52.0	40.0	30.3	48.6

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	STATION.	PERIOD.	JAN.	FEB.	MAR.	APR.	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR.
	Massachusetts.														
575	Lunenburgh	1856	21.9	23.2	31.0	42.1	55.0	65.7	70.0	68.1	59.8	49.3	39.0	24.1	45.8
"	"	1861	22.2	26.0	32.7	45.6	58.2	66.9	71.0	70.2	62.3	50.2	39.5	27.6	47.7
"	"	1866	23.2	25.2	30.1	45.3	65.0	67.4	72.4	68.7	61.3	49.2	37.7	25.3	46.8
576	Mendon	1836	24.2	23.8	34.0	45.4	55.6	65.3	72.5	68.7	61.2	48.7	37.8	27.7	47.0
"	"	1841	27.0	22.2	32.7	45.3	54.2	63.6	70.4	69.4	60.2	46.9	38.8	27.7	46.7
"	"	1846	25.3	22.4	32.5	44.0	54.0	64.2	69.3	68.6	60.2	48.0	41.7	29.5	46.7
"	"	1856	22.5	25.5	33.3	43.1	54.8	66.0	70.5	67.5	60.4	49.6	41.4	26.4	46.6
"	"	1861	23.9	26.8	32.7	44.4	56.3	65.1	70.0	69.2	61.0	50.1	40.5	29.1	47.4
"	"	1866	23.9	25.2	29.6	44.3	53.8	65.5	70.7	67.5	60.7	48.6	38.0	25.1	46.1
577	Milton	1851	27.3	27.1	34.7	44.2	57.7	66.6	71.9	67.7	62.8	52.7	41.1	30.1	48.7
"	"	1856	24.9	28.6	34.4	43.7	55.4	65.8	70.9	68.3	61.3	50.8	40.6	28.7	47.8
"	"	1861	26.0	29.7	35.4	45.4	55.6	67.3	70.5	69.9	62.0	52.1	42.5	31.1	49.0
"	"	1866	27.1	28.6	32.5	46.4	54.7	65.3	71.7	69.0	63.0	50.9	40.7	29.3	48.3
"	"	1871	26.7	26.7	34.3	44.5	57.9	66.9	71.8	69.6	61.4	52.8	37.3	29.4	48.3
"	"	1876	29.6	30.9	37.4	47.4	60.2	68.4	72.8	70.2	63.5	53.6	41.5	31.4	50.6
"	"	1881	26.0	29.0	34.2	45.3	56.2	67.9	71.5	69.5	64.3	53.6	42.8	33.3	49.4
140	Milton	1886	27.5	28.7	34.1	44.7	55.2	63.3	67.5	65.3	58.2	47.0	41.3	30.7	47.0
141	Monson	1886	23.1	*25.7*	30.8	45.0	58.0	64.8	69.5	66.2	58.8	47.0	38.0	27.0	46.2
578	Nantucket	1851	33.7	32.8	38.0	44.7	54.1	64.1	70.7	68.0	63.3	55.7	44.8	36.7	50.6
147	New Bedford	1816	27.6	28.7	34.0	43.6	53.2	63.8	69.3	68.8	62.5	52.3	43.8	31.9	48.1
"	" "	1821	28.5	30.4	36.8	45.6	55.5	65.0	70.6	68.9	62.8	53.1	42.2	34.5	49.5
"	" "	1826	29.6	31.0	36.7	45.2	56.3	64.3	69.9	68.9	61.6	52.6	42.9	36.6	49.6
"	" "	1831	28.4	28.5	35.7	44.9	54.7	63.7	69.2	68.4	61.4	53.1	41.1	28.8	48.2
"	" "	1836	27.3	27.0	34.5	43.4	53.3	62.4	69.2	66.7	60.2	49.8	39.2	30.5	47.0
"	" "	1841	30.2	28.3	35.4	44.5	53.0	63.2	67.9	68.3	61.1	50.0	40.5	31.4	47.8
"	" "	1846	30.3	28.1	35.8	44.9	53.7	63.6	69.2	68.2	62.4	51.9	44.3	34.0	48.8
"	" "	1851	29.0	28.4	35.6	43.2	55.0	64.5	70.2	67.7	61.6	53.7	41.7	31.4	48.6
"	" "	1856	26.7	28.1	34.5	44.0	53.7	64.2	69.3	68.1	61.3	51.6	42.0	31.0	47.9
"	" "	1861	28.8	31.2	36.2	45.9	57.2	65.1	69.9	69.8	62.5	53.6	44.5	33.6	49.9
"	" "	1866	28.3	30.0	33.3	45.5	54.0	64.1	70.6	68.3	62.2	51.4	41.2	30.4	48.3
"	" "	1871	26.7	26.5	32.8	42.7	54.4	64.0	69.7	68.5	60.6	51.9	37.4	29.5	47.1
"	" "	1876	29.5	30.2	35.5	45.3	56.7	65.6	71.0	68.9	62.3	52.8	41.0	30.7	49.1
"	" "	1881	26.1	28.4	33.1	43.3	53.5	64.1	68.9	67.8	62.6	52.3	42.1	33.0	48.1
"	" "	1886	28.3	28.7	33.2	44.5	55.5	63.7	68.6	66.9	60.9	49.6	42.5	32.4	47.9
148	New Bedford	1886	*28.3*	*29.6*	*33.8*	45.0	55.2	63.6	69.0	67.0	61.1	49.6	43.0	32.6	48.2
149	Newburyport	1881	23.5	26.3	31.8	43.2	53.2	65.0	69.1	67.7	61.0	50.3	39.8	30.8	46.8
"	"	1886	25.4	26.4	32.6	44.4	56.2	64.7	69.3	66.2	59.5	47.7	40.2	29.2	46.8
152	Northampton	1886	23.4	24.8	31.5	46.6	59.9	68.0	72.9	69.7	61.9	48.0	39.1	27.7	47.8
153	Plymouth	1886	*30.8*	*30.5*	*34.2*	*45.6*	*58.2*	66.5	71.2	68.4	62.9	51.6	43.7	33.8	49.8
579	Richmond	1856	20.9	23.2	30.5	41.9	56.3	67.2	71.0	68.7	60.8	48.8	35.6	24.2	45.8
"	"	1866	22.1	24.8	30.9	48.2	60.4	70.9	72.2	*67.8*	*63.6*	*50.2*	35.9	*24.5*	47.6
580	Salem	1786	25.7	24.8	35.3	44.0	55.4	67.1	71.0	69.4	61.7	49.9	39.9	27.6	47.6
"	"	1791	25.4	27.0	38.4	48.3	60.1	68.2	72.5	72.0	62.9	50.5	40.3	32.4	49.8
"	"	1800	27.1	29.4	37.4	46.9	57.7	67.6	73.1	71.9	64.8	52.1	40.3	32.8	50.1
"	"	1806	24.9	28.3	33.8	45.7	56.2	66.6	70.6	69.3	62.3	51.3	38.9	32.7	48.5
"	"	1811	23.8	26.7	33.8	45.7	54.7	65.2	71.4	68.9	62.3	51.3	40.8	28.8	47.8
"	"	1816	25.4	26.4	32.8	44.1	55.6	66.7	72.6	70.1	63.3	51.5	42.0	28.8	48.4
"	"	1821	25.4	28.2	36.3	46.5	56.9	67.6	73.0	70.6	62.7	51.7	39.5	31.2	49.2
158	Salem	1886	26.1	27.3	33.4	44.6	56.0	65.0	69.7	66.4	60.1	*47.7*	*40.3*	*31.6*	47.4
161	Springfield	1851	25.5	27.8	34.9	45.4	59.3	66.8	72.4	70.1	63.2	51.8	39.2	27.3	49.5
"	"	1871	22.7	23.2	31.5	43.4	58.6	68.1	72.7	70.1	61.4	50.4	34.7	26.1	46.9
"	"	1876	27.2	28.7	35.1	47.6	61.7	69.5	74.7	71.4	68.8	52.7	39.8	27.8	50.0
"	"	1881	22.5	25.7	31.9	45.7	57.5	68.7	72.6	70.3	64.3	51.9	40.1	30.6	48.5
"	"	1886	25.5	26.7	33.1	48.0	61.0	68.4	72.8	69.4	61.7	49.1	40.4	29.3	48.8
164	Taunton	1871	24.9	25.6	32.1	43.8	57.0	68.1	74.3	71.7	61.3	52.0	36.9	27.8	48.0
"	"	1876	29.3	30.3	37.9	44.4	61.6	70.5	77.8	74.9	67.0	55.9	42.7	30.8	52.3
"	"	1881	26.0	29.4	35.2	47.1	57.5	69.1	74.4	72.5	64.3	55.1	43.7	33.7	50.7
"	"	1886	27.5	29.5	34.1	46.1	57.9	65.3	71.2	67.8	60.9	49.0	41.4	31.4	48.5
163	Taunton	1886	28.4	29.4	34.0	45.8	*57.8*	*64.7*	70.2	67.6	60.9	49.4	42.2	31.7	50.2

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	Massachusetts.														
165	Taunton	1886	27.7	28.6	33.2	44.9	56.4	63.8	69.6	67.5	60.7	48.4	41.6	31.2	48.0
581	Topsfield	1866	25.9	27.2	32.1	45.4	53.6	65.2	71.2	68.1	60.8	48.5	39.1	26.7	47.0
168	Wellesley	1886	26.8	27.7	33.0	45.3	57.6	65.1	69.9	67.2	60.3	48.0	40.7	30.4	47.8
583	Westfield	1861	23.0	26.3	32.7	44.6	56.2	63.9	68.5	67.7	59.9	48.6	39.3	28.1	46.6
170	Williamstown . .	1816	22.0	22.5	29.2	40.7	54.1	64.7	69.7	66.8	58.9	46.8	37.9	24.5	45.0
"	" . .	1821	21.3	24.2	32.6	45.0	56.5	67.4	70.5	61.3	59.6	46.8	35.3	27.4	46.2
"	" . .	1826	22.2	24.7	33.0	44.5	59.2	67.4	70.0	68.5	58.8	48.4	36.9	30.7	47.0
"	" . .	1831	21.9	22.9	33.2	45.2	57.5	65.4	70.0	67.0	58.4	58.0	35.6	22.3	45.6
"	" . .	1866	21.5	23.3	28.5	43.6	53.4	65.4	69.9	66.0	58.9	46.6	36.2	24.3	44.8
"	" . .	1881	18.4	22.2	27.6	41.5	54.6	64.1	67.3	65.5	59.6	48.3	37.4	27.5	45.3
585	Worcester . . .	1881	23.7	24.1	27.6	*41.9*	54.0	65.5	69.6	67.8	61.5	49.6	38.6	28.7	46.0
"	" . . .	1886	24.1	24.8	30.0	44.2	57.1	64.8	70.2	67.9	59.8	46 3	39.1	27.7	46.3
	Rhode Island.														
201	Block Island . .	1881	30.3	31.5	34.6	43.1	51.6	62.4	68.7	68.4	64.1	55.3	45.7	37.1	49.4
"	" " . .	1886	31.7	30.8	33.9	43.3	52.7	61.4	67.7	67.3	62.4	52.1	45.3	35.7	48.7
601	Ft. Adams . . .	1866	29.5	30.5	33.6	*44.0*	53.7	*64.0*	*69.7*	*70.0*	64.0	53.2	42.8	31.3	48.9
"	" " . . .	1871	26.3	25.3	35.5	41.2	52.6	62.2	69.2	68.5	61.1	52.4	38.4	29.9	47.9
"	" " . . .	1876	30.1	33.7	35.4	44.9	54.5	64.0	70.6	69.1	63.0	54.3	42.0	31.5	49.4
602	Ft. Walcott . . .	1826	30.1	31.2	37.6	45.7	56.6	64.6	70.2	69.9	62.9	54.1	43.1	37.3	50.1
"	" " . . .	1831	28.7	29.4	36.0	44.5	53.9	62.7	68.5	68.5	62.4	54.0	42.3	30.3	48.4
603	Newport	1821	30.0	31.9	38.3	46.4	55.8	66.4	71.1	71.2	64.4	54.5	43.1	34.9	50.7
"	"	1826	29.9	31.2	37.5	45.3	56.5	64.6	70.2	69.6	63.1	54.3	43.7	36.6	50.2
"	"	1831	28.8	29.5	36.0	44.8	53.9	62.8	68.6	68.9	62.3	54.1	42.4	30.1	48.5
"	"	1836	29.2	28.5	36.2	44.7	53.4	63.5	70.0	68.5	62.6	52.1	40.5	32.0	48.4
"	"	1841	31.1	29.1	35.9	44.2	51.3	63.2	69.6	70.8	63.7	52.2	*41.7*	32.9	48.9
"	"	1846	31.0	29.3	32.9	42.8	52.0	59.7	69.1	69.5	62.3	53.2	45.1	34.7	48.8
"	"	1851	30.1	30.2	35.9	43.3	53.2	64.2	70.6	68.5	63.2	54.0	43.9	33.6	49.2
604	Newport	1866	28.6	30.5	33.6	44.4	53.3	63.9	68.6	67.8	62.8	51.3	40.7	30.1	48.0
204	Newport	1886	30.9	30.1	35.6	46.2	*56.0*	63.8	*69.0*	*67.8*	62.9	52.2	43.8	*35.6*	49.3
205	Olneyville	1886	29.2	30.0	35.0	47.6	59.2	67.7	72.9	69.6	63.1	51.7	44.5	33.6	50.4
605	Providence . . .	1836	24.8	24.4	33.2	44.4	55.2	64.3	71.2	68.2	60.2	48.6	37.2	28.2	46.7
"	" . . .	1841	29.3	27.7	35.3	45.8	55.1	65.2	70.0	68.8	60.5	49.4	39.1	30.2	48.0
"	" . . .	1846	28.8	26.5	34.7	44.6	54.6	65.4	70.8	70.6	61.9	51.1	43.9	33.0	48.8
"	" . . .	1851	27.7	27.8	35.0	43.9	56.5	66.0	71.9	68.0	61.9	51.9	40.4	30.1	48.4
"	" . . .	1856	25.4	28.0	34.5	44.6	54.1	65.2	69.6	68.2	60.8	50.8	41.1	29.7	47.7
"	" . . .	1861	26.2	29.1	34.2	44.5	55.9	64.0	69.1	68.6	60.5	50.8	41.6	30.9	48.0
"	" . . .	1866	26.4	28.6	32.2	45.7	53.8	65.3	71.0	68.5	61.9	50.5	40.3	28.9	47.8
"	" . . .	1871	25.6	25.8	32.5	42.9	56.2	65.4	70.8	68.8	60.3	51.2	36.4	28.4	47.0
207	Providence . . .	1881	25.0	28.0	33.1	44.9	55.7	67.3	72.0	70.0	64.0	52.8	41.7	32.2	48.9
"	" . . .	1886	28.8	29.7	34.5	46.9	58.5	66.8	72.0	68.9	61.9	50.0	43.0	32.3	49.4
208	Providence . . .	1886	26.9	28.3	33.3	46.2	57.9	66.4	. .	. .	61.9	49.3	41.8	30.8	. .
	Connecticut.														
621	Colebrook	1861	*21.6*	*23.6*	*30.0*	*43.1*	*54.8*	*63.7*	68.3	67.6	59.7	47.9	37.5	27.0	45.4
"	"	1866	20.1	23.0	27.7	43.1	54.1	65.3	70.4	66.7	59.9	46.7	35.3	23.0	44.6
622	Columbia	1861	26.8	29.0	35.0	46.4	58.1	66.3	70.8	70.0	61.9	52.1	42.0	31.8	49.5
"	"	1866	26.7	29.0	32.8	46.5	55.9	67.3	72.9	69.7	63.3	51.2	40.6	28.2	48.7
623	Ft. Trumbull . .	1866	29.6	31.9	35.0	*46.9*	56.1	*62.7*	*75.6*	*72.1*	*64.6*	53.4	43.3	31.7	50.2
624	Goshen	1831	26.3	27.1	33.3	46.3	57.1	65.6	70.5	68.6	63.6	52.4	38.9	25.9	47.8
"	"	1836	24.2	25.7	33.6	44.4	54.6	63.7	70.6	67.8	59.7	48.7	37.0	27.7	46.7
"	"	1841	28.2	27.9	35.7	46.3	55.2	64.8	69.8	70.0	60.4	48.8	39.9	28.8	48.0
"	"	1846	27.7	25.4	33.1	45.5	55.9	66.4	71.0	69.2	60.8	48.9	42.2	30.7	48.0
625	Hartford	1841	32.3	30.6	38.3	49.5	57.4	67.5	69.6	71.0	63.5	50.5	40.8	31.6	50.5
"	"	1846	29.8	28.0	37.7	48.0	58.0	66.8	71.5	69.2	62.3	50.6	43.4	32.5	49.8
223	Hartford	1886	24.0	26.1	31.8	47.5	60.2	*65.8*	72.7	69.1	*61.0*	48.1	40.1	27.9	47.8
626	LyndePt.Lt.House	1856	*25.5*	*27.8*	*33.2*	44.4	54.3	64.4	70.0	69.6	63.1	53.2	42.3	31.0	48.1
226	Middletown . . .	1861	25.1	28.1	33.8	45.9	57.7	65.6	70.3	69.3	62.1	50.8	41.1	30.4	48.4
"	" . . .	1866	26.0	28.1	33.1	47.4	56.2	67.7	72.4	69.2	62.4	50.1	40.2	27.8	48.4
"	" . . .	1871	23.9	24.0	31.9	42.9	56.5	65.8	70.4	69.1	59.9	49.9	35.0	27.0	46.4
"	" . . .	1876	26.6	28.0	34.4	46.2	58.3	66.8	71.8	70.0	61.1	51.1	39.0	27.7	48.4

MONTHLY TEMPERATURE NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	Connecticut.														
226	Middletown . .	1881	22.6	25.7	32.0	43.3	56.0	65.8	70.1	68.0	62.7	51.3	39.7	30.5	47.3
“	“ . . .	1886	25.8	27.2	32.5	46.5	58.1	65.9	70.0	67.4	60.3	48.3	40.3	29.4	49.3
627	New Haven. . .	1781	26.0	28.1	35.0	47.1	57.8	68.8	71.9	71.9	61.6	49.8	39.1	30.6	49.0
“	“ “ . . .	1786	28.1	28.0	38.5	47.9	57.2	68.9	72.4	71.2	63.5	50.9	42.4	29.2	49.8
“	“ “ . . .	1791	27.0	27.3	38.4	48.9	*60.3*	*67.5*	*71.6*	*70.9*	*62.5*	*50.7*	*40.6*	*32.4*	49.8
“	“ “ . . .	1796	27.7	29.2	35.5	49.0	58.2	69.2	74.1	72.6	64.2	52.3	38.8	28.7	50.0
“	“ “ . . .	1801	28.1	30.1	38.6	48.6	58.6	68.7	73.3	73.0	66.0	53.6	41.6	34.3	51.2
“	“ “ . . .	1806	26.5	30.7	34.9	46.9	57.9	66.9	70.3	68.7	62.3	52.8	39.8	34.2	49.3
“	“ “ . . .	1811	24.9	27.1	34.3	45.9	54.1	65.5	70.0	68.6	61.8	51.3	40.9	29.6	47.8
“	“ “ . . .	1816	25.3	26.2	32.6	43.5	52.8	63.9	69.3	67.8	61.8	49.3	41.3	29.0	46.9
“	“ “ . . .	1821	26.2	28.2	37.0	45.5	57.3	66.6	71.6	69.4	62.7	51.4	40.3	33.6	49.2
“	“ “ . . .	1826	26.9	29.6	36.5	46.5	58.9	66.8	70.9	70.2	62.6	51.9	41.9	35.0	49.8
“	“ “ . . .	1831	26.1	27.2	36.2	46.9	56.5	65.5	71.3	69.7	61.2	50.4	39.6	26.4	48.1
“	“ “ . . .	1836	24.9	26.1	35.3	45.9	56.5	65.1	71.5	69.0	60.8	48.9	37.3	29.1	47.5
“	“ “ . . .	1841	29.0	28.5	38.6	48.5	57.6	67.2	71.7	71.2	62.5	49.6	39.3	29.2	49.4
“	“ “ . . .	1846	28.5	26.8	35.8	45.1	57.0	65.6	72.2	70.2	62.6	50.3	43.4	32.2	49.1
“	“ “ . . .	1851	28.1	29.0	36.8	37.5	57.6	66.5	72.0	68.6	62.3	52.0	41.3	31.1	48.6
“	“ “ . . .	1856	25.2	28.6	35.8	46.6	56.5	66.9	71.3	69.3	61.6	52.2	42.0	29.8	48.9
“	“ “ . . .	1861	27.4	30.2	36.6	47.8	59.1	68.8	73.9	72.2	64.3	53.4	*42.4*	*31.2*	50.6
228	New Haven. . .	1876	31.3	32.5	37.8	48.6	60.5	69.3	74.5	71.8	64.7	54.7	42.7	31.9	51.7
“	“ “ . . .	1881	24.3	27.5	32.5	44.5	55.3	65.7	70.2	68.9	64.3	53.1	41.3	32.2	48.4
“	“ “ . . .	1886	27.9	28.7	33.2	46.1	57.4	65.6	70.2	68.4	61.6	50.2	42.6	31.4	48.6
229	New London . .	1871	*27.4*	26.8	33.3	43.6	55.8	65.5	71.4	70.1	62.3	52.8	38.1	30.3	49.0
“	“ “ . .	1876	31.0	31.9	37.1	46.7	57.9	66.4	72.0	70.5	63.7	54.3	42.5	32.0	50.5
“	“ “ . .	1881	27.0	29.8	34.5	45.3	54.9	65.1	70.0	69.4	64.5	54.5	43.4	34.3	49.4
“	“ “ . .	1886	30.3	30.5	35.0	46.4	56.8	65.0	69.9	68.8	62.6	51.2	43.9	33.7	49.5
629	Pomfret	1856	22.4	24.8	32.0	42.3	53.2	63.1	67.5	*65.1*	58.5	48.4	38.2	25.8	44.9
“	“	1861	23.7	26.1	31.2	43.2	54.9	63.1	67.8	66.9	59.3	48.9	39.0	29.0	46.0
630	Sharon	1816	26.1	25.8	32.4	45.0	54.9	66.2	69.7	68.3	61.9	50.0	41.6	28.4	47.7
“	“	1821	24.2	26.7	35.2	46.2	57.0	66.4	70.7	67.0	61.1	51.5	37.8	29.4	47.8
“	“	1826	24.8	27.7	35.9	45.5	59.5	66.8	70.3	69.3	60.9	50.0	39.8	33.4	48.7
“	“	1831	24.6	26.1	35.1	46.3	57.2	64.9	69.8	67.9	60.9	50.4	38.6	25.4	47.3
230	Shelton	1886	26.1	27.1	32.2	45.7	58.1	65.9	70.9	67.6	60.4	47.8	39.8	30.6	47.7
231	Thompson . . .	1856	22.6	26.2	33.2	43.8	54.1	63.1	67.0	64.6	58.3	48.8	38.4	26.1	45.5
“	“ . . .	1861	24.0	26.8	33.0	44.5	56.5	*65.5*	*69.8*	*68.4*	*61.9*	*48.8*	*39.1*	28.9	47.2
“	“ . . .	1866	24.7	26.6	30.9	45.4	*54.9*	*66.1*	*71.8*	*67.2*	*62.0*	49.0	39.3	26.6	47.1
“	“ . . .	1876	26.7	27.8	33.5	45.3	59.0	66.3	71.6	68.8	61.5	*51.7*	39.4	*28.6*	48.4
“	“ . . .	1886	24.3	25.2	31.4	*45.1*	58.6	64.5	69.4	66.3	59.1	*46.8*	*39.2*	27.8	46.5
234	Wallingford . .	1866	27.3	28.0	31.8	47.5	56.8	67.6	72.3	69.0	62.1	50.6	40.9	28.8	48.6
235	Waterbury . . .	1876	28.0	30.3	36.6	48.9	59.0	69.2	74.1	70.8	64.1	55.0	41.5	29.6	50.6
“	“ . . .	1881	22.7	25.8	30.3	44.5	56.6	66.9	71.4	69.5	63.6	53.1	40.4	30.2	48.0
“	“ . . .	1886	24.5	25.9	31.4	45.6	58.0	66.2	70.5	67.9	60.4	47.9	39.1	28.0	47.1

TABLE XIII.

MONTHLY PRECIPITATION NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	New Brunswick.														
1	St. John. . . .	1861	4.93	3.39	4.97	3.96	4.48	1.86	4.26	3.87	4.37	4.25	5.90	4.51	50.75
“	“ “	1866	4.55	6.06	3.61	4.03	4.98	3.94	2.56	3.76	4.61	5.07	6.66	4.77	54.60
“	“ “	1871	4.40	4.00	3.99	3.33	3.97	4.53	3.95	4.33	3.66	5.36	5.29	3.85	50.66
“	“ “	1876	3.66	4.41	6.04	2.82	3.11	2.42	4.00	3.32	3.16	3.90	5.96	3.85	46.65
“	“ “	1881	4.38	5.24	5.87	3.80	5.45	4.26	5.38	3.16	3.30	4.53	4.31	5.95	55.63
“	“ “	1886	7.22	6.18	5.18	2.44	4.45	3.70	4.86	4.27	4.50	5.34	5.49	6.26	59.89
	Maine.														
2	Bar Harbor . .	1886	5.95	5.09	4.61	2.72	4.26	2.21	2.26	3.89	3.09	4.59	5.21	5.29	49.17
502	Brunswick . .	1811	1.66	2.60	*2.41*	*3.85*	4.95	4.01	3.45	3.95	*1.81*	3.01	4.44	. .	. .
“	“ . .	1841	4.82	3.75	5.75	4.97	4.28	2.77	4.20	5.42	4.03	4.49	7.55	7.18	61.21
“	“ . .	1846	4.54	2.55	5.47	3.44	7.06	4.33	3.19	4.84	3.71	4.51	3.88	4.63	52.15
504	Cornish	1856	*3.90*	*4.53*	*4.46*	4.05	3.51	4.15	4.06	5.07	2.97	5.10	4.40	4.09	50.29
“	“	1861	*3.98*	3.01	4.26	4.50	3.17	2.19	3.96	4.36	2.52	4.28	6.19	3.07	45.49
“	“	1866	3.65	4.09	4.18	3.22	4.49	3.35	3.10	4.74	3.81	5.10	4.30	3.01	47.04
“	“	1871	3.31	2.35	3.51	2.89	3.28	3.87	5.35	4.67	2.96	5.30	4.02	*3.96*	45.47
“	“	1876	2.53	2.58	4.05	3.00	1.53	4.69	3.19	3.66	3.33	4.09	4.78	3.64	41.07
“	“	1881	3.51	4.65	3.65	2.57	4.01	3.33	5.54	3.04	3.41	3.24	3.84	4.33	45.12
“	“	1886	4.98	4.56	3.59	2.59	3.77	3.37	4.22	3.54	5.24	4.85	4.83	3.96	49.23
4	Eastport . . .	1876	3.87	3.66	6.43	4.21	2.85	3.00	4.21	3.47	3.70	4.12	5.75	3.91	52.18
“	“ . . .	1881	3.35	5.20	5.52	3.82	6.94	4.61	5.61	2.84	3.12	4.69	3.87	5.60	55.21
“	“ . . .	1886	5.80	4.10	4.18	2.24	3.44	2.85	3.07	3.56	3.32	*4.44*	*4.12*	4.73	43.85
5	Fairfield	1886	*2.44*	2.99	3.07	1.77	3.39	2.56	4.20	2.78	3.68	3.24	4.05	3.33	37.50
506	Fort Preble . .	1841	3.05	*1.75*	2.98	2.61	3.24	3.07	2.52	3.90	2.67	*3.08*	*3.44*	*4.22*	36.53
“	“ “ . .	1866	2.87	4.43	4.43	3.04	*5.60*	*2.62*	. .	*5.28*	3.50	4.50	4.10	3.36	. .
“	“ “ . .	1871	2.70	2.06	*2.88*	2.51	3.16	2.82	2.72	4.12	2.90	*3.63*	3.89	2.15	35.54
“	“ “ . .	1876	*2.55*	2.79	3.09	2.60	1.04	3.56	2.71	3.01	2.24	3.31	*4.70*	1.72	33.32
507	Ft. Sullivan . .	1841	3.18	2.29	2.74	2.88	2.97	1.86	4.51	3.88	*2.16*	*3.32*	*3.66*	*5.44*	38.89
6	Gardiner . . .	1841	4.19	3.04	4.02	3.51	2.92	2.78	2.89	2.73	2.72	3.39	3.05	4.84	40.08
“	“ . . .	1846	3.12	2.39	3.16	2.43	6.62	3.80	3.41	4.51	3.32	4.38	2.90	3.97	44.01
“	“ . . .	1861	3.63	3.24	4.43	3.59	3.71	2.03	3.64	3.06	2.90	4.19	4.66	3.26	42.34
“	“ . . .	1866	3.04	4.81	4.17	3.40	5.25	3.22	2.55	3.64	3.92	5.44	4.01	2.90	46.35
“	“ . . .	1871	3.25	2.53	3.68	3.36	2.98	3.29	3.80	4.67	3.62	4.76	4.25	2.29	43.08
“	“ . . .	1876	3.13	3.78	5.19	3.64	2.12	3.03	3.73	3.45	3.30	4.43	5.31	3.88	44.99
“	“ . . .	1881	4.38	5.56	4.06	3.36	4.61	3.83	3.34	2.10	3.44	3.24	2.52	4.65	45.09
508	HancockBar’cks	1836	*1.94*	*1.83*	*1.64*	*3.49*	*2.69*	4.24	4.36	3.64	2.90	3.39	3.87	2.89	36.88
“	“ “	1841	3.60	1.98	1.99	2.29	3.11	3.39	5.30	2.91	*2.55*	*4.58*	*2.57*	*2.49*	36.76
7	Kent’s Hill . .	1886	4.43	4.63	4.41	2.53	3.65	*3.07*	*3.89*	*3.58*	4.30	4.25	4.11	3.89	46.74
8	Lewiston . . .	1876	3.00	3.29	5.93	3.69	2.03	4.02	3.56	4.15	3.84	4.66	6.15	4.67	48.99
“	“ . . .	1881	4.15	4.85	3.74	3.16	4.70	3.68	4.07	2.26	3.23	2.96	2.95	4.62	47.37
“	“ . . .	1886	4.85	5.03	4.29	2.88	3.64	3.05	4.01	3.41	3.95	4.67	4.85	4.92	49.55
510	Lisbon	1861	*3.07*	3.25	4.77	3.81	3.62	2.20	3.82	3.10	3.31	5.12	5.65	2.97	44.69
511	No. Haven . .	1871	2.69	2.25	2.42	2.69	2.55	2.88	3.07	2.95	2.70	3.89	3.23	1.89	33.21
10	Orono	1871	3.08	3.30	4.38	3.23	3.48	3.63	2.46	3.92	3.77	5.18	4.52	2.60	43.55
“	“	1876	3.68	3.68	4.57	3.09	3.36	3.08	4.27	3.28	3.23	4.21	4.74	4.05	44.29
“	“	1881	3.58	4.19	3.58	2.57	4.65	3.49	3.96	3.71	3.15	3.49	5.54	4.62	46.53
“	“	1886	5.57	5.43	5.13	2.52	4.22	3.70	3.59	3.53	3.74	3.87	4.99	4.71	51.00
12	Portland . . .	1876	3.30	3.20	3.85	3.36	2.07	3.75	3.65	3.48	2.52	3.45	4.51	3.12	40.26
“	“ . . .	1881	3.76	4.66	3.42	2.59	4.17	3.12	4.68	2.47	2.99	3.17	2.68	4.28	41.99
“	“ . . .	1886	4.19	4.69	4.01	3.19	3.62	3.26	3.38	4.12	4.37	5.44	5.56	4.99	50.82
513	Stenben	1861	*4.77*	*4.10*	4.84	4.38	*4.85*	1.98	4.29	*1.85*	3.39	5.10	6.49	5.35	51.39
514	W. Waterville .	1866	3.39	4.42	4.34	2.95	4.70	2.99	2.39	3.39	3.45	3.48	4.27	2.88	45.04
“	“ “ .	1871	3.19	2.90	3.99	2.91	3.08	2.65	2.94	*3.27*	4.02	4.54	3.52	2.90	39.91
	N. Hampshire.														
32	Belmont	1886	4.58	4.04	4.32	2.16	3.29	2.99	3.84	3.73	4.75	4.13	3.75	4.01	45.59
34	Berlin Mills . .	1886	*3.94*	*3.22*	*3.26*	*1.60*	*2.66*	3.26	3.66	4.03	3.27	2.82	*4.18*	3.67	39.57
521	Claremont . . .	1861	3.24	2 82	5.38	3.59	4.00	2.79	3.74	4.71	3.09	4.76	2.47	3.06	43.65
37	Concord	1861	3.02	1.89	4.23	3.63	3.37	3.40	4.45	4.49	2.84	5.35	4.98	2.85	44.50
“	“	1866	2.77	2.64	3.02	3.04	3.83	2.29	2.71	2.98	4.38	4.11	3.31	2.56	38.64
“	“	1871	2.54	2.28	2.68	3.14	2.93	3.34	4.99	4.23	3.00	4.59	3.40	2.30	39.42

MONTHLY PRECIPITATION NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	N. Hampshire.														
37	Concord	1876	2.99	3.10	3.88	3.59	2.84	3.74	3.84	2.94	2.36	3.49	3.91	3.43	40.11
"	"	1881	3.41	3.73	2.58	1.84	3.13	3.03	3.24	2.38	2.88	2.69	2.51	3.45	34.67
"	"	1886	3.98	3.76	3.89	2.28	3.31	3.28	4.19	3.99	4.87	4.39	3.63	3.57	45.14
524	Ft.Constitution	1836	*1.60*	*1.48*	*2.02*	3.44	3.13	3.02	1.77	2.61	1.66	*2.62*	*2.75*	*2.58*	28.65
38	Grafton	1881	3.62	3.74	3.24	2.23	3.63	3.20	4.28	3.88	3.81	3.15	3.32	3.61	41.71
39	Hanover	1836	2.85	2.96	2.35	2.78	3.97	4.59	3.12	2.52	3.43	2.94	3.26	3.27	38.06
"	"	1841	3.98	3.32	3.81	3.73	3.12	3.37	4.40	5.27	3.37	4.55	3.69	3.74	45.34
"	"	1846	2.73	2.21	2.54	2.35	5.25	3.57	3.90	4.84	2.90	4.94	3.01	3.90	42.14
"	"	1871	2.37	1.30	2.21	1.49	2.94	3.33	4.10	*3.85*	2.73	3.85	1.76	1.66	31.59
"	"	1876	2.47	1.91	2.07	2.09	1.19	3.40	4.25	2.71	2.53	2.20	3.25	2.51	30.59
"	"	1881	2.16	2.12	1.66	1.29	2.93	2.71	3.06	2.97	2.64	2.10	2.90	2.48	29.02
"	"	1886	3.42	3.21	3.15	1.52	3.25	3.20	3.64	4.09	3.41	3.57	3.86	3.06	39.38
40	Lake Village .	1886	4.49	4.12	4.30	2.44	3.50	3.57	4.36	3.72	5.32	4.24	4.52	4.26	48.84
42	Manchester . .	1886	4.59	4.50	4.30	2.48	3.58	3.33	4.66	4.19	4.71	4.49	3.77	3.84	48.44
527	Mt.Washington	1871	*2.82*	*2.24*	*3.88*	*2.63*	*4.56*	*10.48*	*8.12*	*7.42*	*10.02*	6.02	4.12	3.02	65.33
"	" "	1876	4.95	3.86	8.20	8.04	6.17	10.69	10.85	8.01	9.36	5.95	8.94	6.22	91.24
"	" "	1881	4.65	5.53	6.46	5.70	8.47	9.83	13.27	8.76	7.90	10.46	7.35	6.16	94.54
45	Nashua	1886	4.13	4.11	4.35	2.48	3.26	2.41	4.71	4.09	4.84	4.62	3.86	4.16	46.98
51	Stratford . . .	1886	*2.55*	*2.21*	*2.71*	*1.62*	*3.52*	*4.16*	3.75	4.14	4.15	2.78	3.96	3.24	38.79
52	Walpole	1886	3.67	3.48	3.51	2.37	3.28	4.23	4.94	5.55	3.05	6.06	5.07	3.82	49.03
53	Weir's Bridge .	1886	4.03	4.07	3.35	2.32	3.58	3.39	3.81	3.73	5.36	3.74	4.05	4.11	45.52
55	Wolfboro . . .	1886	4.72	4.50	4.48	2.75	3.51	3.41	4.12	3.45	4.94	4.45	4.71	4.14	49.18
	Vermont.														
541	Brandon	1856	. .	. .	2.31	*2.22*	2.79	3.39	3.39	5.59	3.23	2.95	2.85	2.31	. .
71	Brattleboro . .	1886	5.16	3.96	4.08	2.72	3.29	3.19	4.51	5.55	2.56	4.96	4.72	4.23	48.93
542	Burlington . . .	1841	1.98	1.83	2.43	2.10	2.82	3.43	3.97	2.21	3.24	3.47	2.20	2.40	32.08
"	" . . .	1846	1.74	1.28	2.00	1.61	3.41	3.09	3.90	2.92	3.19	4.47	2.35	2.73	32.69
"	" . . .	1851	1.44	2.03	1.34	2.16	1.78	4.64	4.39	2.09	3.69	3.79	2.42	1.70	31.47
543	Burlington . . .	1876	2.64	0.83	1.94	2.13	1.63	2.87	3.35	3.45	3.10	3.93	2.65	1.81	30.33
73	Burlington . . .	1886	2.05	1.42	*2.32*	1.81	3.65	*4.14*	3.01	3.87	4.02	2.50	3.47	2.03	34.29
74	Chelsea	1886	3.72	3.11	2.84	2.25	3.80	4.64	3.68	4.97	4.11	3.00	4.03	3.17	43.52
75	Cornwall . . .	1886	*3.17*	*2.17*	*3.59*	*1.90*	*3.78*	3.55	4.06	3.32	3.28	2.61	3.96	2.77	38.16
544	Craftsbury . . .	1861	3.02	2.43	3.14	2.44	3.32	2.36	4.60	4.11	3.26	3.82	3.04	3.16	38.70
"	" . . .	1866	2.71	3.95	2.72	*1.92*	3.81	3.68	3.64	4.32	4.55	4.59	3.55	2.81	42.21
"	" . . .	1871	2.82	2.46	3.07	3.39	2.90	3.26	5.00	5.23	4.07	*4.74*	*3.56*	*3.04*	43.44
"	" . . .	1876	2.93	2.13	3.24	2.98	2.72	3.56	3.88	3.69	4.17	3.81	3.23	2.90	39.24
545	Fayetteville . .	1826	*5.35*	*4.00*	*4.08*	*4.45*	3.86	4.98	5.84	4.52	5.74	3.48	6.34	3.94	56.68
77	Jacksonville . .	1866	5.65	4.86	4.64	3.50	4.51	4.18	5.33	5.50	4.71	5.41	5.54	4.95	58.78
78	Lunenburgh . .	1851	3.39	3.12	3.44	4.20	3.33	3.78	3.09	2.20	3.24	3.19	2.40	2.41	37.79
"	" . .	1856	2.48	2.62	3.49	2.40	2.39	2.98	3.17	4.36	3.64	3.19	3.74	3.47	37.93
"	" . .	1861	3.69	2.60	3.85	3.27	5.28	2.25	4.67	2.99	3.88	4.34	3.57	3.11	43.50
"	" . .	1866	2.86	3.44	2.54	2.21	4.73	3.93	4.29	3.95	4.32	3.36	4.32	2.07	42.02
"	" . .	1871	3.26	2.87	3.22	3.45	4.23	4.84	4.62	5.85	3.25	3.61	2.78	3.16	45.14
"	" . .	1876	2.61	2.08	3.25	3.07	2.54	4.56	4.05	4.04	3.07	3.14	2.88	2.77	38.06
"	" . .	1881	3.09	2.75	2.72	1.14	3.24	3.46	3.94	2.66	3.23	4.06	2.87	2.88	36.04
"	" . .	1886	3.09	2.25	3.27	1.28	3.97	3.65	3.47	4.30	3.99	3.07	3.41	2.86	38.61
81	Newport	1871	*2.82*	*2.46*	3.07	3.40	2.91	3.27	5.00	7.23	4.07	*4.74*	*3.56*	*3.04*	45.57
"	"	1876	3.03	2.13	3.24	2.98	2.72	3.56	3.88	3.88	4.17	3.81	2.23	2.90	39.53
"	"	1881	3.20	3.22	3.39	2.26	5.20	4.49	4.86	3.72	4.43	*4.84*	*3.24*	3.42	46.27
547	Randolph . . .	1866	3.21	3.26	2.14	2.56	3.54	3.58	2.53	2.87	3.85	4.47	3.38	2.25	37.64
83	Strafford . . .	1876	2.76	2.50	4.05	3.05	2.48	3.92	4.60	2.96	3.25	3.38	3.90	3.26	40.11
"	" . . .	1881	3.02	3.08	2.78	1.64	3.49	2.26	4.01	3.84	3.58	3.04	3.20	3.64	37.58
"	" . . .	1886	4.44	3.65	3.82	2.32	3.98	3.52	4.60	4.75	4.25	3.32	4.46	*3.12*	46.23
85	Vernon	1886	4.59	4.00	4.12	2.76	3.44	3.32	5.16	3.82	4.03	4.52	4.21	3.34	47.31
549	Woodstock . .	1871	2.86	2.44	3.14	2.64	3.44	3.23	5.09	3.55	2.81	4.00	2.97	2.30	38.47
	Massachussets.														
101	Amherst	1836	2.64	2.56	2.47	3.29	3.48	4.15	5.71	3.36	3.55	3.20	3.76	3.87	42.04
"	"	1841	3.44	2.86	3.73	2.91	3.19	3.12	2.83	5.54	2.54	5.43	3.12	3.59	42.30
"	"	1846	3.25	2.92	3.40	2.18	4.95	2.91	4.30	4.48	2.58	3.85	3.70	4.76	43.23

MONTHLY PRECIPITATION NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	Massachusetts.														
101	Amherst . . .	1851	2.65	4.47	2.22	5.02	3.29	3.16	4.18	3.78	3.24	4.67	5.91	3.54	46.13
"	" . . .	1856	3.13	2.26	2.38	3.53	4.75	3.79	4.58	5.88	4.25	2.63	2.71	4.27	44.16
"	" . . .	1861	4.06	2.91	4.44	3.15	4.16	6.56	4.93	3.89	2.06	3.95	4.53	3.42	48.06
"	" . . .	1866	3.11	3.74	3.54	3.06	4.86	4.50	3.36	4.53	6.50	4.89	3.83	2.67	48.59
"	" . . .	1871	3.37	2.56	3.12	3.28	3.65	3.87	6.65	4.81	3.75	4.37	3.80	2.17	45.40
"	" . . .	1876	2.95	3.33	4.87	3.58	2.69	4.25	5.11	3.77	2.54	2.85	3.62	3.48	43.04
"	" . . .	1881	3.98	3.61	3.71	2.26	4.25	2.93	2.52	3.06	3.66	3.35	3.18	4.02	40.53
"	" . . .	1886	4.12	3.64	3.68	2.90	3.33	4.36	6.21	5.00	5.29	3.77	4.63	3.47	50.40
104	Blue Hill . . .	1886	4.52	4.26	4.81	3.17	4.17	2.58	3.76	4.14	5.28	5.08	4.11	4.49	50.39
562	Boston	1821	2.68	3.88	3.78	2.86	2.96	2.55	2.83	2.91	3.39	2.52	2.48	3.63	36.47
"	"	1826	3.65	3.19	3.36	2.68	3.21	2.56	4.46	4.77	3.65	2.74	4.65	3.53	42.45
"	"	1831	3.70	2.98	3.12	4.23	3.87	2.38	4.73	2.56	2.57	3.60	3.36	4.04	41.14
"	"	1841	3.07	2.67	3.54	2.88	2.32	2.79	2.10	3.97	2.43	*2.73*	*2.94*	*3.19*	34.63
563	Boston	1826	3.18	2.90	3.19	2.58	3.78	2.62	4.39	4.99	3.89	3.18	4.93	3.13	42.76
"	"	1831	3.30	2.49	2.73	4.42	4.07	2.78	5.55	3.58	2.76	3.87	3.46	3.68	42.69
"	"	1836	4.02	3.43	2.95	3.92	3.49	2.98	2.27	3.43	3.02	3.52	5.01	3.58	41.62
"	"	1841	3.45	3.51	4.57	3.53	2.39	3.06	2.30	3.99	2.57	3.84	5.16	4.96	43.33
"	"	1846	2.73	3.04	4.84	2.11	4.02	2.46	2.01	4.58	3.98	3.54	4.07	5.05	42.43
"	"	1851	3.74	4.38	2.92	6.85	3.28	2.00	3.57	4.07	2.79	3.45	5.10	4.05	46.20
"	"	1856	4.36	2.69	3.29	5.09	4.51	5.78	4.32	6.87	4.85	3.23	3.67	5.32	53.98
"	"	1861	5.44	3.58	7.04	4.85	3.74	3.46	5.73	4.29	2.74	4.47	5.63	4.23	55.20
107	Boston	1866	5.61	6.14	5.90	4.39	5.80	4.39	3.72	5.19	6.83	4.95	3.90	4.46	61.28
"	"	1871	3.89	3.56	4.12	4.82	4.43	4.35	3.43	6.05	3.30	4.40	5.11	3.23	50.69
"	"	1876	3.82	4.16	6.17	5.11	2.13	2.70	4.73	4.66	2.13	4.13	6.18	3.89	49.81
"	"	1881	5.04	5.02	4.02	3.28	4.20	3.78	3.35	3.14	3.44	4.10	3.39	3.44	46.20
"	"	1886	5.01	3.95	4.74	3.22	4.48	2.57	3.67	4.37	4.69	4.54	4.37	3.98	49.59
106	Boston	1871	3.71	3.11	3.80	4.37	4.05	4.41	3.70	6.02	3.08	3.67	5.35	2.97	48.24
"	"	1876	3.86	3.55	6.01	4.67	1.94	2.84	4.53	4.60	2.42	4.26	6.97	4.11	49.76
"	"	1881	5.22	4.27	4.31	3.01	4.58	3.72	3.06	3.15	3.47	4.08	3.16	3.34	45.37
"	"	1886	4.06	3.41	3.49	2.34	3.72	2.20	2.98	3.97	3.74	3.66	3.33	3.26	40.16
565	Cambridge . .	1751	3.61	4.12	3.74	2.53	3.61	5.84	5.10	3.74	2.08	5.35	4.10	2.72	46.54
"	" . .	1756	4.12	2.97	2.73	2.44	2.57	4.15	4.63	5.46	3.21	4.11	3.83	3.69	43.91
"	" . .	1761	1.75	1.92	1.88	2.90	*2.76*	*2.07*	3.70	2.72	2.37	3.93	3.20	3.83	33.03
"	" . .	1766	2.82	1.78	3.10	2.24	3.15	2.12	4.38	3.94	4.44	3.57	3.61	2.53	37.68
"	" . .	1771	2.08	3.11	2.92	*3.54*	*3.12*	*2.75*	*2.97*	*3.78*	*3.99*	*3.87*	*4.37*	*3.19*	39.69
108	Cambridge . .	1841	3.27	3.47	4.25	2.80	2.48	3.36	2.78	5.28	3.04	3.66	4.62	4.61	43.62
"	" . .	1846	2.75	2.56	3.62	2.31	4.64	3.06	2.38	5.09	5.14	3.89	3.53	3.98	42.95
"	" . .	1851	3.26	3.65	2.31	5.91	3.97	2.67	3.23	3.98	3.50	3.74	5.40	4.22	43.84
"	" . .	1856	5.17	2.97	3.28	3.98	4.17	5.27	4.32	7.57	5.48	2.96	3.13	4.30	52.60
"	" . .	1861	5.85	2.48	5.01	5.17	3.27	2.86	5.19	4.35	2.42	4.33	4.76	3.71	49.40
"	" . .	1866	*4.00*	*3.77*	3.93	3.33	4.22	2.89	2.68	3.64	4.20	3.22	2.90	2.32	41.10
"	" . .	1871	3.17	3.39	4.01	3.98	3.56	4.19	3.44	6.32	3.19	3.71	4.21	2.86	46.03
"	" . .	1876	3.50	3.97	5.09	4.22	2.06	2.45	4.59	4.29	1.99	3.44	5.24	3.18	44.02
"	" . .	1881	4.90	4.82	3.70	2.86	3.73	3.67	2.85	2.62	2.92	3.56	3.44	3.13	42.20
"	" . .	1886	5.20	4.07	4.41	2.93	3.98	2.24	3.55	3.96	4.08	4.50	4.07	4.18	47.17
109	Cambridge . .	1886	4.92	4.80	4.76	3.51	4.76	2.71	4.38	4.33	4.73	4.94	4.70	4.86	53.40
567	Charlestown . .	1796	1.89	2.71	3.10	3.55	4.74	2.51	2.67	3.44	3.02	4.50	2.23	2.49	38.85
110	Chestnut Hill .	1876	3.65	3.11	5.47	4.35	1.91	2.38	4.32	4.40	2.17	3.81	5.76	3.01	44.34
"	" " .	1881	4.51	4.31	3.15	2.86	3.85	3.79	3.07	2.63	3.18	3.85	3.22	3.16	41.58
"	" " .	1886	5.13	4.14	4.82	3.37	4.32	2.39	3.98	4.47	4.80	4.71	4.51	4.45	51.09
114	Cotuit	1881	3.82	4.18	2.83	3.34	3.25	3.79	3.48	2.81	2.64	3.15	3.44	3.16	39.91
"	"	1886	3.63	3.69	5.24	3.16	3.96	2.40	3.14	4.09	4.61	5.42	3.97	4.02	47.33
117	Dudley	1886	2.78	3.39	4.07	2.38	3.46	*1.80*	2.95	*3.98*	4.18	3.99	3.24	3.88	40.10
120	Fitchburg . . .	1886	5.22	4.02	4.10	3.19	3.71	2.80	4.79	5.15	5.45	4.84	4.57	4.15	51.99
121	Fitchburg . . .	1886	4.50	4.11	3.98	3.30	3.81	2.85	5.30	5.62	5.96	5.16	4.72	4.05	53.36
122	Framingham .	1876	3.23	3.35	5.56	4.07	2.18	2.65	4.50	4.52	1.71	3.98	4.52	3.55	43.82
"	" . .	1881	4.82	4.58	3.13	2.79	3.85	3.03	2.47	3.18	2.87	3.85	3.20	3.45	41.22
"	" . .	1886	4.77	4.07	5.00	3.09	3.51	2.38	4.05	4.68	4.89	5.31	4.46	4.61	50.82
123	Gilbertville . .	1886	4.93	5.90	5.13	*2.51*	*4.12*	*3.12*	5.63	5.54	5.40	4.76	4.41	4.48	55.93

MONTHLY PRECIPITATION NORMALS FOR FIVE YEAR PERIODS.

No.	STATION.	PERIOD.	JAN.	FEB.	MAR.	APR.	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR.
	Massachusetts.														
124	Groton	1886	*3.90*	3.78	3.92	3.23	3.40	2.43	4.50	5.17	3.60	5.28	4.08	3.43	46.72
571	Kingston . . .	1866	*4.21*	*3.56*	*4.30*	*3.81*	*5.25*	*2.81*	4.10	3.73	3.60	4.79	2.44	3.41	46.01
127	Lake Cochituate	1856	2.69	2.31	3.84	4.50	4.53	6.06	4.38	7.40	5.41	2.71	3.39	4.20	51.42
"	" "	1861	4.56	2.94	4.88	5.17	3.92	2.54	5.29	4.35	2.39	5.22	6.58	3.52	51.36
"	" "	1866	3.99	4.83	5.13	4.27	6.35	3.69	5.32	5.62	5.25	5.87	4.32	3.17	57.81
"	" "	1871	2.56	2.43	3.40	3.26	3.82	4.33	3.71	6.17	3.07	4.21	4.53	2.65	44.14
"	" "	1876	3.17	3.55	5.23	3.95	2.11	2.59	5.22	4.54	1.80	3.83	4.86	3.10	43.95
"	" "	1881	4.80	4.40	2.98	2.64	3.65	3.07	3.06	2.83	3.03	3.62	2.90	3.35	40.33
"	" "	1886	4.75	4.10	4.76	2.93	3.51	2.16	4.03	4.34	4.94	4.91	4.32	4.64	49.39
572	Lawrence . . .	1856	3.73	2.79	2.29	4.13	3.94	3.76	3.64	7.33	4.73	3.56	2.88	5.01	47.79
"	" . . .	1866	3.51	2.59	*5.24*	3.60	4.78	3.52	3.59	4.43	*6.18*	4.16	4.10	2.91	48.61
128	Lawrence . . .	1886	4.78	4.03	4.20	2.96	3.90	2.76	3.95	5.06	4.50	4.83	4.49	4.21	49.67
130	Leominster . .	1886	4.37	4.01	4.06	3.11	3.98	2.79	5.20	5.34	3.69	5.07	4.57	4.00	50.19
131	Long Plain . .	1886	5.58	4.82	5.36	3.86	5.25	2.90	3.89	4.47	5.00	5.95	6.00	5.11	58.19
573	Lowell.	1826	2.46	2.16	3.13	3.00	3.98	3.30	3.68	3.44	3.95	2.90	5.28	3 00	40.28
"	"	1831	3.25	2.19	2.91	4.38	4.48	2.99	4.66	3.99	2.96	4.58	3.04	3.10	42.53
"	"	1836	1.49	1.44	2.24	3.78	3.50	3.60	3.61	3.89	2.66	3.04	4.12	2.80	36.17
"	"	1841	1.87	2.14	3.44	3.02	2.71	3.32	2.36	5.40	3.27	3.34	4.35	3.36	38.61
"	"	1846	3.03	2.45	3.62	2.29	4.99	3.42	2.75	4.59	3.65	3.91	3.54	3.68	41.92
"	"	1851	3.04	4.29	2.27	5.98	3.06	2.65	3.01	4.45	2.82	4.60	4.81	2.90	43.88
"	"	1856	2.79	1.82	2.65	3.88	3.59	4 20	3.85	6.04	4.68	3.09	2.94	4.70	44.41
"	"	1861	4.37	2.65	5.30	3.00	3.25	2.65	4.39	3.82	2.10	4.18	4.24	3.13	43.08
"	"	1866	3.65	3.97	4.33	3.51	4.65	4.13	2.59	4.50	4.77	3.24	3.06	2.66	45.06
"	"	1871	2.52	2.88	3.26	2.95	3.28	3.53	3.78	5.77	2.72	3.83	4.30	2.13	40.85
"	"	1876	2.98	3.39	5.25	4.91	2.18	3.05	4.53	4.66	1.79	3.75	4.35	3.60	44.44
"	"	1881	4.34	4.46	3.32	2.77	4.52	3.79	3.96	3.04	3.33	3.50	3.08	3.76	43.87
133	Lowell.	1856	3.06	2.54	2.89	4.09	3.69	4.32	3.64	5.78	5.05	3.21	2.60	5.28	46.15
"	"	1861	4.37	2.63	5.49	3.84	3.41	2.45	4.44	4.06	2.11	4.06	4.43	3.68	44.99
"	"	1866	4.08	4.12	4.70	3.81	4.94	3.85	2.86	4.23	4.46	3.59	3.14	3.11	46.89
"	"	1871	3.21	2.96	3.53	3.66	3.61	3.67	3.92	6.07	2.96	3.72	4.73	2.59	44.63
"	"	1876	3.44	3.70	5.39	4.67	2.35	3.12	4.60	5.02	1.80	3.55	4.58	3.61	45.83
"	"	1881	4.52	4.42	3.63	2.63	4.22	3.42	3.40	2.74	2.81	3.27	2.91	3.37	41.34
"	"	1886	4.99	4.30	4.43	3.08	3.73	2.68	4.31	3.75	4.38	4.93	4.54	4.43	49.55
134	Ludlow	1876	*2.79*	2.96	4.55	3.36	2.09	4.01	4.67	3.06	2.31	2.99	3.23	2.52	38.54
"	"	1881	3.68	3.65	2.80	1.91	3.79	3.62	3.33	4.20	3.45	3.34	3.00	3.80	40.57
"	"	1886	4.15	4.15	4.92	2.61	3.82	3.64	5.68	4.53	5.31	4.49	4.18	3.86	51.33
575	Lunenburgh . .	1841	3.86	3.33	4.03	6.19	4.63	6.47	3.23	2.37	2.85	2.95	4.08	4.73	48.72
"	" . .	1846	5.42	3.96	4.39	5.21	3.64	3.99	3.14	3.73	4.53	2.55	3.27	6.24	50.07
"	" . .	1851	3.73	3.99	4.91	5.25	4.90	3.72	3.04	3.60	4.89	3.51	6.54	3.80	51.88
135	Lynn	1876	3.39	3.27	5.87	4.31	2.05	2.77	4.84	4.54	2.02	4.05	5.40	3.12	45.63
"	"	1881	4.47	3.74	3.54	3.05	3.81	3.39	2.52	2.96	3.07	3.75	3.16	2.86	40.32
"	"	1886	5.00	4.50	5.23	3.20	4.16	2.68	4.58	5.38	4.48	4.90	4.66	4.72	53.49
138	Medford	1886	4.90	4.06	4.15	2.96	3.94	2.54	4.04	4.15	4.12	4.75	4.13	3.95	47.69
140	Milton	1886	4.36	4.16	4.88	3.30	3.93	2.43	3.79	4.06	5.03	4.88	4.29	4.33	49.44
141	Monson	1886	4.24	*4.50*	*5.43*	2.56	3.09	3.12	5.43	4.85	3.55	4.49	4.00	4.32	49.58
142	Mt. Nonotuck .	1886	. .	*4.56*	*4.89*	2.90	3.45	4.11	5.93	4.57	5.48	4.06	4.36	3.79	. .
143	Mystic Lake . .	1876	2.91	3.41	5.04	4.01	2.13	2.16	4.89	4.73	2.20	3.57	4.79	2.77	42.61
"	" " . .	1881	4.73	4.23	3.37	2.62	3.59	3.92	2.73	2.61	2.81	3.50	3.11	2.92	40.14
"	" " . .	1886	4.77	4.01	4.72	3.14	4.23	2.60	4.73	4.41	4.39	4.82	4.33	4.36	50.51
144	" P'mp'gSta.	1886	4.24	3.22	3.87	3.25	4.05	2.94	3.89	4.70	3.97	5.24	4.53	3.54	47.44
147	NewBedford . .	1816	2.42	4.11	3.86	3.32	4.32	3.32	2.10	3.34	4.50	3.61	4.24	2.70	41.84
"	" " . .	1821	3.42	4.44	4.79	3.97	3.69	3.28	3.34	3.87	3.76	3.66	3.08	5.25	46.55
"	" " . .	1826	4.32	3.98	5.01	3.38	5.36	3.44	5.04	8.25	3.88	4.97	6.29	3.42	57.34
"	" " . .	1831	4.29	2.93	3.73	4.58	4.51	3.60	3.06	5.23	3.45	4.52	4.16	5.01	49.07
"	" " . .	1836	4.05	3.23	3.52	3.53	4.41	3.68	2.10	3.45	3.00	4.42	3.98	3.47	42.84
"	" " . .	1841	4.07	3.09	4.13	4.58	2.52	2.71	2.77	4.00	3.06	4.25	5.44	5.20	45.82
"	" " . .	1846	3.38	3.13	3.93	3.16	3.97	2.65	2.51	4.51	4.97	3.21	3.32	5.31	44.05
"	" " . .	1851	2.91	4.55	2.83	5.54	3.97	1.73	5.59	2.72	3.78	3.41	5.37	4.08	46.48
"	" " . .	1856	4.75	2.46	3.18	3.96	3.52	3.80	3.72	4.16	3.75	2.32	2.89	4.59	43.10

MONTHLY PRECIPITATION NORMALS FOR FIVE YEAR PERIODS.

No.	Station.	Period.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	Massachusetts.														
147	NewBedford. .	1861	4.01	3.34	4.31	3.55	4.02	3.28	3.14	3.52	2.51	3.82	4.95	3.92	44.37
“	“ “ . .	1866	4.30	4.39	4.72	3.76	5.37	4.22	3.27	3.65	3.51	4.33	2.64	4.00	48.16
“	“ “ . .	1871	4.24	3.71	4.51	4.56	4.09	3.64	3.48	5.36	3.06	4.22	5.05	3.42	49.34
“	“ “ . .	1876	3.11	3.33	6.03	4.11	2.14	2.16	4.27	4.00	2.23	3.88	5.35	3.82	44.44
“	“ “ . .	1881	4.61	5.04	3.22	3.32	3.44	3.55	3.21	3.05	3.02	3.51	3.54	3.64	43.15
“	“ “ . .	1886	5.12	4.24	5.84	3.69	4.81	3.27	3.76	4.75	4.95	5.01	4.23	4.51	54.18
148	New Bedford. .	1886	*5.23*	*3.55*	*5.34*	3.57	4.82	3.05	3.98	4.01	5.51	4.98	4.39	4.37	52.80
149	Newburyport .	1881	4.80	4.46	3.71	3.17	4.16	2.77	3.14	2.83	3.03	3.84	3.23	3.80	42.94
“	“ . .	1886	5.49	4.83	4.98	3.14	4.17	2.66	3.93	4.69	3.95	4.76	4.92	4.64	52.16
152	Northampton .	1881	4.24	4.32	3.48	2.51	4.42	3.22	3.59	4.07	3.94	3.72	3.78	4.35	45.64
“	“ .	1886	4.88	4.31	4.68	3.33	4.00	4.64	6.51	4.48	5.66	4.84	4.86	4.17	56.36
153	Plymouth . . .	1886	*4.28*	*3.46*	*5.71*	*4.37*	*4.10*	2.30	2.64	4.66	3.87	4.67	4.43	4.00	48.49
159	Salem	1886	4.64	4.06	4.58	3.21	3.77	2.74	3.85	4.49	3.76	4.39	4.26	4.65	48.40
160	So. Hingham .	1886	5.64	4.59	5.02	3.31	4.24	2.72	3.60	4.59	4.79	5.43	4.87	4.82	53.62
161	Springfield . .	1851	2.34	4.34	1.88	4.52	3.55	2.78	5.80	4.73	2.91	5.16	5.43	3.44	46.88
“	“ . .	1856	3.29	2.14	2.63	3.20	4.25	3.99	3.91	5.59	3.79	2.64	2.54	4.25	42.22
“	“ . .	1861	4.13	2.70	4.22	3.10	4.36	3.87	5.07	3.23	2.18	3.94	4.35	3.40	44.55
“	“ . .	1866	3.18	4.22	3.98	3.12	5.52	4.46	3.44	3.86	4.85	5.21	3.55	2.84	48.23
“	“ . .	1871	3.54	3.12	3.65	3.59	3.89	3.56	4.19	6.80	2.94	4.68	4.09	2.73	46.78
“	“ . .	1876	3.07	3.77	5.74	4.27	2.27	4.54	4.44	3.59	2.70	3.56	4.14	3.75	45.84
“	“ . .	1881	4.39	4.68	3.29	2.36	4.16	4.06	3.66	4.06	3.67	3.69	3.28	4.12	45.42
“	“ . .	1886	4.19	3.97	4.46	2.59	3.65	3.94	5.50	4.60	6.14	4.45	3.77	3.73	50.99
164	Taunton	1876	4.77	4.38	3.62	3.86	1.51	2.28	4.47	4.85	2.11	3.26	6.02	3.60	44.73
“	“	1881	5.92	4.32	3.26	2.94	3.24	3.15	2.36	1.86	2.44	2.85	4.16	3.51	40.01
“	“	1886	5.41	4.56	5.51	3.72	4.45	2.37	4.76	5.19	4.51	5.07	4.78	4.37	54.70
163	Taunton	1886	5.07	4.54	4.44	3.50	*4.12*	*2.69*	4.40	4.88	4.26	4.95	4.63	3.99	51.47
165	Taunton	1886	5.62	4.76	5.25	3.61	4.58	2.51	4.55	5.10	4.60	5.30	4.80	4.22	54.90
581	Topsfield . . .	1866	3.90	4.36	4 51	3.36	4.93	2.69	3.04	4.55	3.69	4.07	2.99	3.00	45.09
166	Waltham . . .	1826	*3.22*	. .	4.03	3.17	3.82	3.85	4.38	4.24	4.56	3.43	5.68	2.77	. .
“	“ . . .	1831	2.93	1.58	3.05	5.18	4.57	2.96	5.05	3.34	3.10	4.85	3.65	1.81	42.07
“	“ . . .	1836	2.38	2.91	2.06	4.29	4.07	3.69	2.34	3.62	2.53	3.31	4.11	3.61	38.92
“	“ . . .	1841	3.27	*1.98*	3.54	3.21	2.26	2.94	2.73	4.86	3.05	3.91	4.85	*4.14*	40.74
“	“ . . .	1846	3.04	*2.19*	4.50	2.60	4.63	3.44	2.46	4.73	4.58	3.61	3.17	3.47	42.42
“	“ . . .	1851	2.73	3.87	2.25	5.85	3.29	2.26	3.12	3.82	3.07	3.48	5.13	3.15	42.02
“	“ . . .	1856	2.54	1.60	2.53	3.72	3.80	4.19	4.39	7.18	4.55	2.77	3.02	3.37	43.66
“	“ . . .	1861	2.88	2.60	4.09	4.02	3.14	2.55	5.25	3.63	2.06	3.86	4.78	2.94	41.80
“	“ . . .	1866	3.58	2.73	3.96	3.67	5.15	3.14	3.57	3.93	4.51	3.98	2.66	2.36	43.24
“	“ . . .	1871	2.28	2.15	2.85	3.51	3.15	3.55	3.41	6.16	2.94	3.92	3.84	1.80	39.56
“	“ . . .	1876	2.66	2.65	4.88	3.90	1.92	2.01	5.67	5.39	1.91	3.78	4.68	2.31	41.71
“	“ . . .	1881	3.80	3.72	2.78	2.59	3.45	3.46	2.99	2.20	2.78	3.35	3.24	2.72	37.08
“	“ . . .	1886	5.17	4.07	4.61	3.37	4.20	2.45	4.26	4.16	4.44	4.97	4.75	4.84	51.29
582	Watertown . .	1836	*2.39*	*2.57*	*2.44*	*4.56*	*4.24*	3.81	2.75	3.58	2.76	3.19	4.30	4.22	40.81
168	Wellesley . . .	1886	4.98	4.34	5.62	3.49	3.64	2.37	5.14	4.08	5.00	4.92	5.16	4.33	53.05
169	Westboro' . . .	1886	4.66	3.94	4.62	2.94	3.14	2.14	3.91	4.73	4.16	5.04	4.24	4.11	47.63
583	Westfield . . .	1861	*4.22*	3.23	4.51	3.35	4.54	3.92	5.53	3.33	2.65	4.33	4.71	3.46	47.78
170	Williamstown .	1866	2.81	3.13	2.71	2.75	3.85	3.19	3.42	*4.44*	3.82	3.91	3.03	2.59	39.65
“	“ .	1881	*3.15*	*4.04*	2.08	*2.18*	3.22	2.45	*3.76*	*3.46*	2.83	2.40	2.61	*3.29*	35.47
171	Winchester . .	1886	4.46	3.32	3.96	3.37	4.27	3.22	4.19	4.88	3.84	5.07	4.52	3.54	48.63
584	Worcester . . .	1846	3.29	2.54	4.22	2.40	5.07	2.69	3.43	4.03	4.17	4.13	3.20	3.81	42.98
“	“ . . .	1851	4.29	5.13	2.42	6.91	4.22	2.99	4.79	5.69	3.37	6.07	6.51	4.24	56.63
“	“ . . .	1856	3.50	2.23	3.35	3.97	4.31	4.37	3.97	6.82	4.81	2.92	2.84	4.62	47.71
585	Worcester . . .	1881	*2.77*	*4.79*	*2.12*	*2.25*	4.20	3.31	2.65	2.79	1.94	3.55	2.98	4.02	37.37
“	“ . . .	1886	4.30	5.06	5.58	2.98	4.36	*2.59*	*4.30*	*4.87*	4.39	5.64	4.48	4.18	52.73
	Rhode Island.														
201	Block Island .	1881	5.28	5.91	4.03	3.40	4.89	4.36	3.23	3.42	2.91	5.25	4.52	4.66	51.86
“	“ “ .	1886	4.12	4.02	4.03	2.71	3.05	1.94	2.91	2.48	3.30	3.41	3.31	2.83	38.11
202	Bristol	1886	*4.74*	*3.18*	*5.34*	*3.19*	4.26	2.78	3.51	4.53	3.72	4.46	3.94	3.92	47.57
601	Ft. Adams . .	1871	3.38	2.25	2.74	3.65	3.39	3.00	2.77	5.58	2.54	3.81	3.90	2.34	39.30
“	“ “ . .	1876	1.98	1.79	4.25	3.75	1.64	2.45	3.76	3.70	1.99	2.85	4.02	2.78	34.96
203	Lonsdale . . .	1881	4.78	5.16	3.20	2.43	4.16	3.58	2.61	2.61	2.81	3.67	3.58	3.57	42.16

MONTHLY PRECIPITATION NORMALS FOR FIVE YEAR PERIODS.

No.	STATION.	PERIOD.	JAN.	FEB.	MAR.	APR.	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR.
	Rhode Island.														
203	Lonsdale . . .	1886	5.16	5.13	4.42	3.48	4.65	2.61	4.37	5.39	4.48	5.68	4.16	4.58	54.11
206	Pawtucket . . .	1886	5.18	5.55	4.30	3.56	5.17	2.61	2.82	5.04	4.57	5.14	4.43	4.47	52.81
207	Providence . .	1836	2.66	2.39	3.17	3.35	4.16	2.92	2.44	2.89	2.61	3.43	3.70	3.34	37.06
"	" . .	1841	3.17	3.09	3.76	3.45	2.78	3.24	3.19	4.29	2.08	4.00	4.40	3.81	41.23
"	" . .	1846	3.03	2.51	3.92	2.14	4.01	3.20	1.98	4.60	4.25	3.30	3.73	4.46	41.13
"	" . .	1851	3.43	4.32	2.14	5.68	3.34	1.91	3.85	4.49	2.80	3.18	5.41	3.93	44.48
"	" . .	1856	4.17	2.27	3.35	3.31	3.17	4.20	3.32	5.63	3.89	2.31	2.81	4.51	42.94
"	" . .	1861	5.10	3.42	4.78	4.06	3.51	3.21	4.10	3.07	2.89	3.47	5.00	3.64	46.25
"	" . .	1866	4.55	4.54	5.21	3.77	5.51	4.85	2.13	3.92	3.90	3.92	3.19	3.37	48.86
"	" . .	1871	3.50	3.62	4.10	4.66	3.71	4.36	3.59	7.26	2.72	4.36	4.25	2.83	48.96
"	" . .	1876	3.03	4.06	6.36	4.00	2.35	2.95	4.04	4.47	2.48	3.32	5.57	4.09	46.70
"	" . .	1881	6.22	5.26	3.49	2.72	3.43	3.12	2.89	2.33	2.88	3.74	3.33	4.00	43.53
"	" . .	1886	5.35	5.47	4.94	3.55	4.38	2.44	4.39	5.27	4.72	5.12	4.43	4.48	54.56
208	Providence . .	1886	5.12	5.41	4.49	3.14	4.11	2.31	*2.84*	*4.83*	4.52	5.02	4.18	4.18	50.15
	Connecticut.														
221	Canton	1861	2.64	2.36	4.19	3.83	4.20	2.45	6.37	4.64	2.68	5.37	5.28	2.89	46.90
"	"	1866	3.29	5.37	4.37	3.36	8.68	7.73	3.39	6.22	6.60	8.10	6.18	4.27	67.56
"	"	1871	3.56	2.88	3.42	3.82	3.75	4.03	4.34	7.22	2.92	4.16	4.64	2.56	47.30
"	"	1876	3.00	3.52	5.61	4.03	2.51	4.35	4.18	3.55	3.08	3.72	4.01	4.01	45.57
"	"	1881	4.69	4.34	3.06	2.35	3.76	2.96	4.00	3.95	3.16	4.11	3.52	4.05	43.95
"	"	1886	4.56	4.22	4.09	3.18	3.48	3.44	5.76	4.28	5.49	4.74	4.16	4.04	51.44
625	Hartford . . .	1846	*3.36*	*3.26*	*4.16*	*2.36*	*4.64*	*2.42*	4.36	3.88	3.70	4.11	4.45	3.97	44.67
224	Hartford . . .	1876	3.33	3.23	5.67	3.87	2.11	3.82	5.30	4.63	2.79	3.21	3.66	3.65	45.24
"	" . . .	1881	4.57	4.04	3.45	2.15	4.19	2.45	4.41	3.47	3.36	3.80	2.95	3.99	42.85
"	" . . .	1886	5.28	4.61	4.27	2.89	3.54	2.96	5.29	4.70	3.84	4.85	4.32	4.57	51.12
223	Hartford . . .	1886	5.20	*4.36*	. .	3.06	3.73	*3.62*	*5.52*	*4.71*	*4.40*	4.87	4.61	3.94	. .
225	Lake Konomoc	1881	4.92	5.14	4.38	2.70	3.99	3.55	3.12	4.59	2.65	4.14	3.74	4.24	47.16
"	" "	1886	5.55	4.78	5.47	3.77	3.37	3.35	5.48	*4.97*	5.06	*5.00*	4.36	5.20	56.36
226	Middletown . .	1861	4.16	2.99	3.93	3.21	4.32	3.62	2.74	3.48	3.05	3.07	4.44	3.11	42.12
"	" . .	1866	3.25	4.29	4.47	3.42	5.07	4.35	2.82	5.59	5.06	5.55	3.50	3.36	50.73
"	" . .	1871	4.25	3.71	4.03	3.85	3.41	3.01	4.25	6.77	2.73	3.67	4.45	3.19	47.32
"	" . .	1876	3.32	3.83	6.13	4.09	2.07	3.92	5.35	5.20	2.96	3.63	4.17	4.09	48.76
"	" . .	1881	4.91	4.90	3.64	2.07	3.83	3.09	3.15	3.95	3.33	4.21	3.10	4.23	44.41
"	" . .	1886	5.35	4.87	5.37	3.01	3.53	3.33	6.15	4.64	4.49	5.15	4.13	4.68	54.70
627	New Haven . .	1806	3.51	3.38	2.72	3.37	3.94	3.50	5.63	4.45	2.60	2.45	4.07	4.05	43.67
"	" " . .	1811	3.44	4.33	3.81	3.32	4.55	3.27	5.69	5.79	4.66	3.53	4.24	3.73	50.36
"	" " . .	1816	2.70	4.22	4.14	3.00	4.15	3.59	2.87	2.50	4.17	3.31	2.68	2.47	39.80
228	New Haven . .	1876	3.49	3.89	6.78	5.19	2.69	3.30	6.07	5.87	4.00	3.99	4.60	3.45	53.32
"	" " . .	1881	4.60	4.88	4.20	2.03	3.88	3.28	4.15	3.55	3.90	4.01	2.56	4.26	45.30
"	" " . .	1886	4.16	4.12	4.58	3.09	3.41	3.38	6.76	4.70	4.52	4.65	3.97	3.55	50.89
229	New London .	1871	3.41	2.59	3.68	4.31	3.84	2.96	3.86	6.63	3.36	4.54	4.26	2.86	46.30
"	" " . .	1876	3.29	3.40	6.22	3.96	1.76	3.61	4.87	5.04	3.10	3.45	4.11	3.46	46.27
"	" " . .	1881	5.92	5.60	4.37	3.31	5.07	4.06	4.45	4.35	3.27	5.11	3.70	4.13	53.34
"	" " . .	1886	4.74	5.01	5.24	3.76	3.61	3.04	4.12	3.92	4.75	4.77	3.85	3.44	50.25
628	Norwich	1871	*5.31*	*4.88*	*3.23*	4.44	5.04	2.98	3.27	7.67	3.48	5.24	5.84	3.91	55.29
"	"	1876	3.25	3.61	7.23	4.87	2.31	3.44	5.23	4.78	3.32	4.48	4.89	3.59	51.00
629	Pomfret	1856	4.09	*2.05*	3.64	3.74	3.53	4.23	4.42	7.99	4.56	2.57	2.95	4.44	48.21
"	"	1861	3.66	2.90	4.07	2.77	3.95	3.20	5.43	3.61	2.87	4.30	4.67	3.57	45.00
230	Shelton	1886	4.84	4.85	5.08	3.15	4.39	4.36	6.62	5.10	*5.50*	5.04	*5.92*	*4.12*	58.97
232	Uncasville . . .	1886	*6.35*	*4.26*	*6.72*	*4.20*	4.38	3.11	5.85	6.10	5.85	5.47	4.77	5.23	62.29
233	Voluntown . .	1886	5.92	5.27	5.22	3.72	3.50	2.73	4.41	4.50	4.98	4.98	4.64	4.95	54.12
234	Wallingford . .	1856	*4.21*	*2.84*	*3.72*	4.18	5.20	3.91	3.96	6.59	4.12	3.23	3.36	5.17	50.49
"	" . .	1866	3.62	4.24	4.55	3.92	5.53	3.95	2.82	5.21	4.37	5.77	3.96	3.62	51.56
"	" . .	1871	4.29	3.91	4.04	*4.16*	*3.73*	*2.48*	3.39	7.19	2.78	3.56	4.64	3.08	47.27
"	" . .	1876	3.46	4.03	6.14	4.49	2.32	3.58	6.03	4.59	3.24	3.54	4.38	4.04	51.84
"	" . .	1881	5.52	5.47	4.29	2.04	4.00	2.93	3.50	3.53	3.36	4.42	3.05	4.97	47.18
"	" . .	1886	5.30	5.08	5.17	3.39	4.33	4.21	5.87	4.65	4.60	4.83	4.43	4.92	56.78
235	Waterbury . .	1886	*4.47*	*4.14*	*4.70*	*3.08*	*3.72*	*3.88*	5.54	3.71	4.32	4.13	4.44	4.62	51.15
631	West Hartford	1871	3.01	2.73	3.01	3.30	3.83	3.60	3.67	6.78	2.40	3.49	3.39	2.19	41.40
"	" "	1876	2.87	3.09	5.38	3.11	1.91	3.58	4.33	3.87	2.34	2.55	4.26	3.20	40.49
"	" "	1881	3.48	4.29	2.96	2.00	3.05	2.04	4.28	4.15	3.47	3.62	2.89	3.36	39.59

EXPLANATORY NOTES FROM COLUMN 7, TABLE XI.

1. Corrected to true daily mean by tables in Smithsonian Contributions, Vol. XXI.

2. Mean daily temperature from mean of maximum and minimum readings.

3. Temperature reduced to true daily mean by a correction, obtained from the Smithsonian tables for Toronto and Montreal; a complete discussion of the observations is given in the reference.

4. Hours of observation not known.

5. Mean daily temperature is obtained by the formula $\frac{1}{4}$ (7+2+9+9).

6. Temperatures corrected to true daily mean by table in Chief Signal Officer's report, "Mean Temperatures and their Corrections in the United States, by Alexander McAdie, M. A., 1891." The hours of observation, description of instruments and their exposure can be found in the Annual Reports of the Chief Signal Officer.

7. Temperature observations not corrected to the true daily mean. See reference for hours of observation and description of instruments.

8. Observations at morning, noon, and night; hours not specified but assumed to have been about sunrise, noon and sunset.

9. Observations by C. A. J. Marsh, J. A. Paddock and E. P. Wild. The records were furnished the Society by Mrs. E. P. Wild, but no mention was made therein regarding the observers or instruments, or whether the latter were changed in position with the change of observers. There is internal evidence of a change in position of the thermometers from 1876 to 1880.

10. "The observations seem to indicate overmeasure. The gauge is not described in the manuscript but there is internal evidence that the measurements of large amounts, particularly, were a too great amount of rain and melted snow." (Note on data from Chief Signal Officer.)

11. Observers, C. S. Paine, E. Bethel and Manley.

12. Observations were made by Prof. E. S. Snell until 1876 and since that time by M. L. and S. C. Snell. (See also note 5.)

13 All observations during a period of 36 years were taken at the same house (No. 51 Hancock St.), but the position of the thermometers was slightly changed. The observations are fully discussed in the reference.

14. The monthly means of these observations were printed in the *Boston Evening Traveller*, March 28, 1850. The hours of observation are not known.

15. Observations from 1866 to 1885, inclusive, were made by the Sewer Department and from 1886 to 1890 by the Boston Water Works. The two series of observations were made in adjoining yards, the gauges having practically the same exposure.

16. Observations taken "morning and evening," the hours averaging about 7 A.M. and from 3 to 4 P.M. No description of the gauge used is given in the original records, which are in the possession of the American Academy of Arts and Sciences, Boston, Mass.; neither is its exposure mentioned. The temperature observations from 1759 to 1763 were taken from a Fahrenheit thermometer made in London, and exposed on the north side of the house. It may be considered accurate, as the observer's notes show that he tested it by placing in snow and found that the mercury stood at the freezing point. The observer's description of the thermometer used for the rest of the observations is as follows: "My thermometer was of Mr. Hawksbee's make, filled with spirit of wine. Ye scale is divided into 100 parts, beginning from a certain point above marked 0 and ye 100th degree falls just above ye bulb of ye thermometer. Ye freezing point is numbered 65°. Ye divisions are upward to 8° above zero. Ye observations are expressed in the degrees with their decimal parts. The instrument shows the highest temperature but not the lowest for it goes into the bulb. How it was adjusted in London I know not but it appears to me yt ye freezing point is marked considerably too high, for having plunged ye bulb into a vessel of snow I found yt ye spirit fell down to 76.5° and then rested." During several years, readings were taken from both thermometers and the record kept, and a table of corrections was obtained from these records, for changing the record by the Hawksbee thermometer to its equivalent in Fahrenheit readings.

17. From 1840 to 1844 the observations were taken at the first Observatory established by Harvard College, at the corner of Harvard and Quincy Streets, Cambridge. On September 25, 1844, the instruments were dismounted to be removed to the site of the present Observatory building, where they have since remained although they have had several different locations about that building. Different thermometers have been in use and the hours of observation have varied considerably in different years so that a correction, for which the material is now being collected, must be applied for the hourly variation. A full description of instruments and observations is given in the Annals of the Observatory, Vol. XIX, part I.

18. The gauge is said to have had a very poor exposure, receiving only the water that fell vertically.

19. The thermometer has been hung in the same place nearly thirty-five years and has been observed by the same person except on rare occasions.

20. Since August, 1889, mean temperature from maximum and minimum readings.

21. Mean temperatures from April, 1872, to January, 1875, except December, 1872, April, 1873 and March, September and October, 1874, from maximum and minimum readings.

22. Gauge situated in yard surrounded by high buildings; rainfall estimated to be 5 per cent too small.

23. Observers: January to May, 1876, A. L. Graves; May to August, 1876, A. P. Chapin; August, 1876 to February, 1877, S. T. Briggs; February, 1877 to April, 1882, A. L. Graves; April, 1882 to December, 1890, M. W. Graves.

24. For 1886, mean temperature from readings at 7 A.M., 2 and 9 P.M.; for 1877 to 1890, mean from maximum and minimum readings.

25. The late Samuel Rodman began the record of temperature in October, 1812, at New Bedford, Mass., at a house on the northwest corner of Water and William Streets. The position of the thermometer was at the east window of the second story and its elevation was about thirty feet above tide water. On January 24, 1820, the location of observations was moved northerly a distance of 570 feet to a house on the northwest corner of Water and Middle Streets. The position of the thermometer was at the northeast angle of the "L" of the house, and its elevation was about fifteen feet above tide water. On January 19, 1828, the location of observations was again changed a distance of 2400 feet in a southwesterly direction to a house on the southeast corner of Spring and County Streets, being a distance of 2150 feet southwesterly from the first position. Since then, records have been continuously maintained in this place up to the present time. Mr. T. R. Rodman, who has kept up the observations since the death of his father on August 1, 1876, writes as follows regarding its exposure here: "The first position of the thermometer in this location, as I remember it, not very long after January, 1828, was on the pillars of the north portico of the house, where by an arrangement of chains and hooks, it could be moved from side to side so as to escape the sun's rays. Its elevation in this position was about one hundred and eight feet above tide water. At a subsequent date which I cannot now determine the thermometer was removed to its present position in front of, and about eighteen inches distant from, the north window of the northwest room of the first story of the house. It is enclosed in a cage whose sides are of wood and whose front and back are of wire netting. The cage is suspended from an iron framework and is firmly held in its place by iron braces. The elevation of the thermometer is about one hundred and six feet above tide water. On each side of the window the blinds are bowed at right angles and permanently secured in this position so as to shield the instruments from the sun, and insulation is thus practically perfect. The thermometer now in use is of the manufacture of J. Green & Sons and its number is 2789. It was carefully selected by my father at a date which I am unable to establish. I am also unable to give the description and dates of adoption of other thermometers used prior to the selection of that now in use, but I am satisfied from my own recollection and from a knowledge of my father's conscientious care in these matters that the instruments employed in his meteorological work were the best obtainable. I know that he spared neither time nor money to obtain the best results. The hours at which the thermometer was noted were: from October 1, 1812 to January 1, 1842, sunrise; 2 P.M., sunset, 10 P.M.; from January 1, 1842 to September, 1858, sunrise, 9 A.M., 3 P.M., 9 P.M.; from September, 1858 to the present time, 7 A.M., 2 P.M., 9 P.M. These last hours were established to conform to blanks from Smithsonian Institute. My father died August 1, 1876. Since his death, with some assistance from others for a year or two after his death, I have carried on the work."

26. About 18 years ago the instruments were moved nearly 600 feet farther north and to a position eight feet higher than first located. (See also note 5.)

27. Observations may have not all been made by A. M. Merriam.

28. Mr. D. Fitz Gerald, Supt. Boston Water Works, reports that previous to 1885 this gauge did not have a good exposure, and a careful study of the earlier records show them to be particularly untrustworthy.

29. "During long days the hours of observation were at 6 A.M., 1 and 9 P.M., and during short days, 7 A.M., 1 and 9 P.M."

30. Hours of observation not known.

31. Observations taken at College Hill near University Hall, Providence. Thermometers were sometimes changed, but great care was taken to use only the best that could be obtained. The observations from October to March were taken at sunrise, 1 to 2 P.M. and 10 P.M., and from April to September at 6 A.M., 1 to 2 P.M. and 10 P.M. A full discussion of these observations may be found in Smithsonian Contributions No. 443 and Vol. XII.

32. The precipitation observations were made and recorded from 1836 to 1876, inclusive, on College Hill under the direction of Prof. Alexis Caswell (see note 31), and from 1876 to 1890, at Hope Reservoir under the direction of the City Engineer. The rain gauge used by Professor Caswell was located about seven feet above the surface of the ground, and that at Hope Reservoir is one foot above the ground. The observations from 1878 to 1885, inclusive, have been corrected for an inaccuracy caused by the imperfect construction of the gauge with which the record was made. The thermometer from 1881 to 1884 was located at Hope Reservoir, and since that time at the City Engineer's office; a correction has been applied to reduce the means taken at Hope Reservoir to the standard of the City Engineer's office, and also a correction for reducing to the true mean for the day (see note 1).

33. Before September, 1878, the observations were taken by Professor Brocklesby at his residence near the old college. From September 1878 to September 1882 they were taken by the same observer near the east end of Vernon Street about three-fourths mile south of the former place and at the same elevation, and since September, 1882, by Prof. Samuel Hart on the broad space near the new college campus to the west of the latter station and about 50 feet above it, being now at an elevation of 145 feet. There is no internal evidence of marked change in exposure.

34. During these observations the same thermometer has been used and has always hung in the same place. The rain gauge has been changed several times but its location has remained the same. (See also note 5.)

35. Observations have been made at all times by observers connected with Yale College. The instruments have been moved several times but have always been located in the near vicinity of the College. The hours of observations have varied but the temperature means have been corrected for daily variation. A full discussion of the records may be found in the reference.

36. These observations have always been made by the same person and from the same thermometer. During 1890 the position of the thermometer was slightly changed for the first time. (See also note 5.)

Italic figures in columns 4 to 15, of tables XII and XIII indicate that the mean is for four years only.

THE TORNADO AT LAWRENCE, MASS., JULY 26, 1890.

1. THE FEATURES OF TORNADOES AND THEIR DISTINCTION FROM OTHER STORMS.

BY

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INTRODUCTION.

The occurrence of a destructive tornado at Lawrence, Massachusetts, on July 26, 1890, gives us unhappy reason for the especial consideration of this class of local storms, fortunately rare in New England. We have heretofore presented to our members essays on the more usual elements of our weather and climate. It will appear, if a review of our publications is made, that most of them are concerned with the accumulation and discussion of climatic factors; the mean values of temperature, precipitation, and so on; from which we shall have in time the basis of an accurate knowledge of this division of our natural history. Attention has been given also to certain of the stronger weather elements, by which the more distinct changes from one day to another are controlled: thus there is in the last annual number of the Investigations an essay on the types of New England weather, by the Director; and in the American Meteorological Journal for 1887, there was published a more particular examination of the distribution of rainfall in our larger cyclonic storms by Professor Winslow Upton, reprints of which were distributed to members of the Society at the time; a fuller report on this subject may be expected in the next volume of the Investigations. Studies on still smaller weather elements have been undertaken in the observations and discussions of thunder-storms and sea-breezes, as carried on by a considerable number of volunteer observers, and reported to members in earlier years. The subject of tornadoes thus follows in a sufficiently systematic order after its predecessors.

THE GENERAL CHARACTERISTICS OF TORNADOES.

Tornadoes are violent, local, progressive whirlwinds, having a general indraft from all sides, rapidly increasing in violence and taking on a true vorticular and ascensional motion near the center, where a cloud of dust and rubbish rises to meet the funnel cloud that hangs from the great cloud mass above; the breadth of their destructive action is generally less than a thousand feet, and is often less than five hundred feet. They sometimes occur in groups and are nearly always generated in the southeastern quadrant of a general cyclonic storm.

The whirling of tornadoes has long been on record as a fact of direct observation. As long ago as 1587, the Reverend Mr. A. de la Pryme described a "spout" that occurred at Hatfield, Yorkshire, England. (Philosophical Transactions, XXIII, 1702, p. 1248.) He wrote: "the wind thus blowing soon created a great vortex, giration and whirl among the clouds, the center of which ever now and then dropt down in the shape of a thick long black pipe, commonly called a spout; in which I could plainly and most distinctly behold a motion, like that of a screw, continually drawing upwards, and screwing up (as it were) whatever it touched." From this time on, the more explicit accounts of these storms furnish plentiful reason for believing that Mr. de la Pryme's spout was in no way exceptional among storms of its class.

In this country, I find that "Mr. John Winthrop, Professor of Philosophy at Cambridge in New England," gave an account of a whirlwind at Leicester, Massachusetts, in 1760, the earliest account of one of these storms in our State. He says (Phil. Trans., LII, 1761, p. 9): "At Leicester, several people of credit say, that about five o'clock the sky looked strangely; that clouds from the southwest and northwest seemed to rush together very swiftly, and, immediately upon their meeting, commenced a circular motion; presently after which a terrible noise was heard. The whirlwind cut its path through the trees, and having passed over some clear land, it came to the dwelling of one David Lynde, the only one which stood in its way; upon this it fell with the utmost fury and in a moment effected its complete destruction."

A little later, J. Maltby described a tornado that occurred at Northford, Conn., on June 19th, 1794 (American Journal of Science, 1, XXXIX, 1840, 384), as "whirling most violently upon its center." From among the many more modern accounts of these storms, I select the following on account of the competence of the observer and the clear and explicit statements of his observations. In an account of the tornadoes of the Southern States (American Journal of Science, 3, II, 1871, 96-108), Mr. H. S. Whitfield, Professor of Mathematics in the University of Alabama, tells us that he had a clear view of a tornado that occurred near Tuscaloosa in 1867. It was, when first seen, about five miles away, and judging by the angular altitude of the cloud at that time its actual altitude must have been about 4500 feet. It approached so near the observer that he had some fears for his safety; but it finally passed south of him, about nine hundred feet distant. Describing the cloud column, funnel or spout, he wrote: "The gyratory motion was distinctly visible." When it was about a mile away, he saw that it would pass to the south, and at this time he first noticed the surface rubbish "which appeared like an innumerable flock of birds, flying around the summit of the column"; and shortly after he perceived "a pine tree, sixteen inches in diameter and sixty feet long, float out from the black vortex . . . . at the height of a quarter of a mile, and sail around, to all appearance as light as a feather." Finally in respect to the tornado at Lawrence, we have the direct statement of Mr. Peter Holt, who saw this storm from a short distance on the north side of its track; he has made the most explicit statement of its whirling motion to me, after which I can neither doubt that his observation was definite nor that the tornado cloud whirled around.

It would seem that a fact so well substantiated as the whirling of tornadoes need not be further disputed; but it is curious that upon this question there has been waged one of the most active controversies that our science has witnessed. Half a century ago, the two leading meteorologists of that time in this country, Espy and Redfield, maintained directly contradictory views on this matter. Espy contended that tornado winds were radial indrafts, while Redfield believed them to be circular whirls. As facts were accumulated, both these eminent men modified their views slightly, each yielding a little to the other, and modern meteorology is satisfied with the conclusion that tornado winds follow vorticular spiral paths; being nearly radial at some distance from the center, and becoming almost circular in the funnel cloud. This conclusion is now so well supported by observation and so fully explained by theory that it can hardly be considered in dispute. Indeed, the reason for the spiral whirling was clearly stated in answer to Espy when he advocated his theory of radial indraft at a meeting of the British Association in 1840; one Mr. Smith then explained that "from the principle of the conservation of areas it was perfectly certain that if a storm was caused in the manner supposed by Mr. Espy, there must be a rotation, greater or less, in the centre. Because, unless the motion of all the currents was accurately directed to one point, or at least their moments in a horizontal plane were equal to zero, which was infinitely improbable, a motion of rotation must be the result." This Espy acknowledged to be theoretically correct, and admitted that it is "highly probable that spouts sometimes whirl one way and sometimes another; but generally neither way; and in all cases, the whirl, if any, would only be perceptible very near the centre." (Philosophy of Storms, 1841, p. xxx.) I shall on a later page return to the cause of the rotation, but wish now to consider briefly the reason for the different interpretations of similar observations, on which the Redfield-Espy controversy was waged.

THE NATURE OF TORNADO WHIRLS.

Observers who have witnessed tornadoes at no great distance generally give explicit account of the whirling of the funnel cloud, if their observations are carefully made. Many examples of this could be added to those quoted above. But after the tornado has passed and the observer has only the destruction produced in its path to examine, it not unfrequently happens that he fails to detect those special and significant effects by which the whirling of the winds is recorded. He may for example enter the inquiry with the prepossession that the tornado whirl is like that of a whirling disc, of uniform angular velocity in all parts, and hence of greater linear velocity as the distance from the centre increases. If such were the case, his expectations of finding trees and houses overturned in sweeping curves of large radius should be realized; but such an attitude of overturned objects is seldom discovered. I have indeed seen in Pennsylvania a small field of corn laid low by one of the several tornadoes that occurred near Philadelphia in August, 1883; when I visited the path of one of these about three weeks after its occurrence, the corn stalks still lay flat on the ground, systematically disposed in regular curves, with a radius of perhaps two or three hundred feet; the stalks all lying in such a way as to demonstrate that the whirl turned from right to left, although the area of the corn-field was but a small part of the area of the whirl. Judging from the maps of tornado paths, it is seldom that overturned objects are so uniformly placed as in this case: it may be supposed that the field of corn was prostrated on the first onslaught of the storm; while when the destruction is exerted upon trees, these are broken down only as the strongest part of the storm reaches them; and hence nearly all of them may lie in a position determined by the direction of the strongest wind. To make specific illustration of these difficulties, I may mention that one of the observers from whom an account of the Lawrence tornado has been received, went to the ground fully persuaded of the whirling theory and expecting that he would find the trees lying in sweeping curves in demonstration of the circuits of the whirling winds; but on discovering that most of the trees lay headed to some easterly direction, he abandoned the whirl theory, and maintained that there was no whirl, until on learning of the more accurate observations by Mr. Mills and others, he saw his double error.

The convectional theory of tornadoes does not imply a rotation of the mass at a constant angular velocity; but a vorticular rotation of constantly increasing velocity toward the center. A vorticular motion of the tornado winds implies that they are nearly radial at some distance from the center; but that they become more and more nearly circular as the center is closely approached. It is, therefore, not to be expected that a vorticular whirl would overturn trees only in directions at right angles to radial lines; such positions might occur near the center, but on the other hand, the trees should be thrown down with their tops towards the storm center on the outskirts of the disturbance. This, however, would be true only of a stationary tornado; and such are unknown. The progressive motion of the whirl must be considered and as this combines in a different manner with different components of the whirlwind, it is manifest that a highly unsymmetrical record of wind action must be left on the ground in a tornado's path. The wind felt by any obstacle, such as a tree, must be the resultant of both the whirling or advancing motions. Hence, if the trees of a forest were all prostrated at once at the first onslaught of a tornado, they would be found in very unsymmetrical positions. The rotary motion compounded with the progression on the right side of the central track, where the whirl and the advancing motion agree, would produce an excessive velocity of the wind with respect to the ground; and as a consequence the destructive action of the storm would extend further on this side than on the other, where the backward direction of the whirling motion would be in part neutralized by the forward progression of the whirl. Indeed for this reason we should expect to find trees blown over backwards only near the central path, for only there would the backward rotary motion be strong enough to exceed the progressive velocity by a destructive amount. For the same reason, the winds in the rear of the vortex would be of greater violence than those on the front; and hence most of the larger trees should be overturned somewhat forwards along the track, but with a tendency to cross it to the right. Moreover, the relation between the velocity of the whirl and the velocity of advance is not constant: it may be imagined that in a relatively weak whirl, advancing very rapidly, the wind on the left of the central path would be nearly neutralized; while a very strong tornado, advancing slowly, would be nearly as destructive on one side as on the other. A variety of combinations of this kind is possible, and the effects of different tornadoes cannot be expected to agree closely.

But there are yet other and varied causes for irregularity of destructive action by a whirling tornado blast. The strength of the storm varies along its track; it sometimes weakens down to relative harmlessness; again it is invigorated up to the utmost violence. Its motion is not along a geometrically straight line; the vortex has been seen to sway from side to side, and sometimes with considerable activity. Finally there is a great variation in the resistances offered by objects in the path of the vortex: in an open prairie, there is nothing to destroy; in a forest, a belt of trees is cut down; in a village, the houses are laid waste.

When all these reasons for irregularity of destructive action are considered, it is no wonder that the objects overturned by a tornado are not systematically arranged, lying in such positions as to show at the first glance the single whirling component of the total wind motion by which they were blown down. The complicated combination of whirling and progressive motions, both somewhat irregular, cannot be analyzed at once; its nature is revealed only after comparison of many records. But when many records are examined, and it is found that they are throughout characterized by just such special features as the compounding of a vorticular whirl with a forward progression would require, it is unreasonable to withhold belief in the theory of a whirling vortex, which the direct observation of the whirling funnel cloud alone is sufficient to establish.

I have delayed upon this consideration, because of the evident unfamiliarity with it shown in the reports of some of the observers to whom we are indebted for records of the Lawrence storm. It will be further dwelt upon in the report below by Mr. Mills; and if we are again afflicted by a tornado, we may hope that its destructive effects may be examined with the consequences of the generally accepted theory in mind; not that observation should then be warped into any predetermined channel; but that the theory may be more carefully tested by a critical examination of the particular results that it involves.

Believing that the fact of rotary or vorticular motion in tornadoes is fully established, we may briefly consider the explanation by which not only the rotary motion but the general constancy in the direction of rotation — from right to left — is accounted for. In this connection, we must recall that there is an ascensional motion compounded with the whirling; for the testimony is consistent from all parts of the country as to the upward lifting power manifested in the central funnel cloud of tornadoes. The observation made by Professor Whitfield may be recalled in this connection. An ascent about the center is moreover demanded by the occurrence of centripetal winds on different sides of the center. The currents of air flowing from all sides towards the center must escape there in some way; they therefore rise as they whirl. With this fact in mind, we may review the conditions in which tornadoes occur.

THE CHARACTERISTICS OF TORNADOES.

The characteristics of tornadoes have been tabulated by Lieut. Finley of the Signal Service, to whose labors in this direction we owe most of our statistical knowledge of these storms. He finds that they are most common in early summer, although they have been observed in all months of the year. They are most common in the afternoon hours, but here again, there is no hard and fast rule, for they are on record as occurring at all hours, day and night; they are, however, for the most part, pretty closely limited to the times when the temperature is above the normal of the season, and when the air is damp and sultry. They commonly occur in light to moderate southerly winds; heavy clouds, thunder-storms and rain are associated with them; hail does not appear to be so invariably present, but is still characteristic. Tornadoes move generally from southwest to northeast, but a number of strong deviations from this direction are recorded; sometimes they come from the northwest, sometimes from the south; but I do not recall any example of a tornado coming from any point east of the meridian. Their diameter is generally less than a thousand feet, and may be less than five hundred. Their velocity of advance along their track is about thirty miles an hour; hence they occupy decidedly less than a minute in passing any given point and laying it waste. It is not uncommon to find that they go in groups; and also that after one tornado has exhausted itself, another one springs up not far from the track of the first.

COMPARISON OF DUST-WHIRLS, TORNADOES AND TROPICAL CYCLONES.

The most significant fact here mentioned, as far as the origin of tornadoes are concerned, is that they occur in warm weather, and in the warm hours of warm spells; that they are associated with thunder-storms and heavy rainfalls, whose lofty cloud masses proclaim them all to be convectional movements on a great scale. When this is perceived, it is natural to reverse the order of the facts stated above, and believe that the ascensional component of the tornado, although not so violent as the whirling, is nevertheless the essential and initial movement, in consequence of which the other follows; its explanation being best found in the essays of Professor Ferrel. Thus regarded, tornadoes fall into a position intermediate between the dusty whirlwinds of deserts and the vast whirling systems of cyclones proper. The whirls of deserts are local short-lived upward currents of heated surface air, which assume a spinning motion because all their indrafts cannot agree to move with a precisely radial motion. These whirls are of regular occurrence in deserts, where they spring up as the sands become heated, and rise to a height of a thousand feet or more. At first they stand nearly stationary, but as they reach some higher layer of air which possesses a gentle progressive motion, they stalk across the plain, and in so apparently mysterious a manner, that they are called "devils" by the Arabs. They last but a little while, for their supply of hot surface air is soon drained away. They are sometimes seen to be preceded by a mirage, resulting from reflection on the upper surface of the heated air stratum while it yet lies close to the level ground; but this disappears as they give it vent upwards. Dust and sand are the only forms of precipitation that they produce.

The typical cyclones of the tropical seas are again convectional disturbances, according to the best judgment that we can make of them; but they are in every way stupendous affairs compared to the little desert whirls. They are of much greater size; a diameter of three to five hundred miles is not uncommon. They attain a much greater height, for at their summits, even over the warm tropical seas, the outspreading cirrus clouds tell us that they have reached an altitude where an icy temperature prevails. They are longer in preparation; for while the desert whirls are produced after a few hours of sunshine on the dry sands, the cyclones are in incubation for several days, during which the air becomes more and more sultry; that is warmer and moister. When once begun, they last longer, and keep at work night as well as day; for they do not depend simply on the sensible heat of the air which ascends around their center, but on the latent heat of their great store of water vapor, accumulated during many previous days of sunshine, and now liberating the energy then stored away. Their violence is enormously greater; for while desert whirls are seldom of destructive violence, cyclones are excessively destructive near their center; truly not so devastating as tornadoes, in which the velocity of the wind is at its highest known value; but strong enough to wreck ships, strip them of canvass, founder them in the open sea or part their anchor cables and drive them ashore.

Desert whirls and cyclones thus represent the opposite extremes of convectional processes in the atmosphere; and tornadoes belong between them. Tornadoes are comparatively small; not greatly exceeding dust-whirls in size, but in violence they make amends for other shortcomings; nothing seems strong enough to withstand the blast of a well-made tornado. Although seldom living more than half an hour or an hour, they are somewhat analogous to cyclones in requiring what may be called a longer period of incubation than a single day; for they fall nearly always near the close of a spell of unseasonably warm weather. Their occurrence chiefly in the warmer hours of the day indicates, however, that diurnal warming has a share in producing them. They are, moreover, like cyclones in being to a certain extent independent of direct sunshine, on which the desert whirls wholly depend. Tornadoes sometimes keep whirling after nightfall; and then their convectional ascent must be ascribed, as in cyclones proper, in greater share to the latent heat of their condensing water-vapor than to their sensible heat.

The convectional overturning of desert whirls is manifestly the product of local immediate heating of the quiet lower air at the place where the whirl springs up. Unless the overturning takes place before nightfall, the heat gained by day is lost, and the process of warming must be begun over again the next morning. The convectional overturning of cyclones is prepared much more deliberately; as far as the cyclones of the calm belts between the trade winds are concerned, these also are of essentially local production; but the sunshine of one day is in great part stored up and held over to the next in the water vapor of the humid atmosphere. The convectional overturning of tornadoes is, in this country and probably in general, somewhat unlike that of the smaller and the greater whirling storms, inasmuch as tornadoes arise in masses of warm air that have in great part gained their warmth elsewhere; their opportunity is imported; for in nearly all cases with us they spring up in warm moist southerly winds, whose warmth and moisture is brought from some southern source. This fact is one of the most interesting discoveries to which our daily weather maps have led; and although it was first noted some twenty years ago, attention was not clearly called to the fact until the publication of Lieut. Finley's maps of the great series of tornadoes that traversed the Southern States on February 19, 1884. It was then most clearly seen that the area in which the tornadoes, some thirty or forty in number, occurred, was limited to the region occupied by the warm winds flowing obliquely in towards the center of a cyclonic storm, whose path traversed the Great Lakes. Since that date, this relation has been found to hold true in a very general way. It may, therefore, be said, somewhat figuratively, that tornadoes are the offspring of cyclonic storms. The Lawrence tornado was no exception to this rule.

The comparison between dust whirls, tornadoes and cyclones may be extended to their rotary movement. The whirls of the desert turn either way, because their turning is accidental; that is, it depends on an indefinite variety of local controls, whose relation is unsystematic and cannot be foreseen; they turn to the right or to the left, according to the direction of their stronger indrafts. Cyclones, on the other hand, are most constant in their rotation. They always turn to the left in this hemisphere and to the right in the other, because their indrafts are deflected to one side of the radial path toward their central low pressure from the fact that they are moving on a rotating sphere. Tornadoes also turn with much constancy in the same direction as cyclones. It is not likely that their indrafts are drawn from a sufficiently large area to be systematically deflected into one direction of turning; they are so small that one might well expect them to exhibit an accidental gyration and turn in either direction, as is the case with desert whirls. The reason for the general constancy in the direction of tornado whirling appears to come indirectly from the earth's rotation, through the mediation of the parental cyclonic storms: for when a little whirl springs up in a larger one, the rotation of the two will agree. The relation of the tornado to the cyclone, already indicated by the position in which tornadoes generally occur, is thus confirmed by the control that cyclonic storms exert on the direction of tornado rotation. Although the whirl of the cyclonic storm in which the Lawrence tornado was formed was too large for any one observer or even for several observers to detect it, it is apparent enough when all the observations are charted on the weather map; and as the Lawrence tornado turned from right to left, we may fairly ascribe its turning to the turning of the cyclonic winds in which it was generated.

The intimate connection thus established between the great cyclonic storms and the small tornadoes may be strengthened by even another link. It is probable that the convectional action of tornadoes is due not only to an abnormal warmth and moisture of the lower winds, but to a perhaps less marked and yet significantly low temperature of the high-level currents. The reasons for this supposition are perceived when the facts concerning the cyclonic circulation at the level of cirrus clouds are recalled. A number of observers have now made it certain that in the southeastern part of cyclonic storms, where tornadoes spring up, the southerly lower winds are overlain by northwesterly or westerly currents, in which the cirrus clouds float; and just as the lower winds coming from the south bring warmth and moisture with them, so the upper cirrus currents bring something of the low temperature that characterizes their source. In the presence of both these currents, the vertical decrease of temperature in this portion of the atmosphere must be exceptionally rapid at the zone of transition between them; and it is in such a place of strong decrease of temperature vertically that instability and convection may be expected. If this view is correct, the place of beginning of tornado convection should not be looked for near the ground, as in the case of desert whirls, but up in the mass of the cyclonic clouds; and it is presumably for this reason that the funnel cloud of the tornado is often seen first as a small pendant to the under surface of a great cloud mass, from which it extends downwards as the whirl increases in strength. The association of tornadoes with thunder-storms may be taken to confirm this view; for thunder-storms, like tornadoes, most frequently are formed in the southeastern part of cyclonic storms. Indeed, it may be said that tornadoes are only the downward whirling propagation of the more active upper ascensional currents in cyclonic areas. Whenever the clouds below which tornadoes occur are seen from a distance to one side, they are found to show the upward boiling shape characteristic of cumulus clouds and thunder-storms. The more energetic of the convectional currents in such cloud masses may extend their action downward, and as their inflow is felt near the earth's surface, it may take on the form of a tornado.

The comparison drawn between the several kinds of convectional disturbances in the atmosphere may be extended to their progressive motion. Desert whirls advance with any local breeze into which they may ascend. Their course is irregular and apparently arbitrary. Cyclones sometimes move for a time irregularly, but they generally follow definite paths; and with good reason, for these paths are conformable with the general circulation of the atmosphere, coursing obliquely between the warm equator and cold polar regions on the rotating earth. Tornadoes move with the predominant winds in which they occur; not simply with the southerly winds of the surface, but with the movement of their entire convectional column. They float along, whirling as they go. In this they are like the isolated cumulus clouds, which one may observe on any fine day; rolling and curvetting if the wind is brisk, but manifestly owing their progressive motion to the advance of the current in which they float. Thunder-storms, in the same way, are transported eastwards in the mass of moving air in which they are as a whole formed. Tornadoes drift with the total air currents through which they rise. The surface currents are generally southerly, while the tornado nearly always advances from southwest to northeast, or from west to east; but this is what might be expected if the effect of the upper overlying westerly currents is considered.

The downward propagation of the whirling funnel from the heavy cloud mass in which it begins is so common a feature of tornadoes that it has been misinterpreted by some and taken as meaning that the action of the central tornado winds is downward. The evidence of heavy objects that are carried up from the ground must be held to contradict this view; and the explanation of the apparent descent of the funnel cloud may be referred to the terse wording of Franklin, who perceived its meaning correctly nearly a century and a half ago. He said that "the spout appears to drop or descend from the cloud though the materials of which it is composed are all the while ascending," for the moisture is condensed "faster in a right line downwards than the vapors themselves can climb in a spiral line upwards." (Franklin's Works, Sparks' edition, VI, 153, 154; from a letter dated Feb. 4, 1753.)

LOW PRESSURE IN THE TORNADO WHIRL.

One of the most peculiar effects of the tornado is the apparent bursting open of closed vessels or buildings. It is sometimes reported that the walls of houses are blown out on all sides; that the doors of closed rooms are burst outwards; that corks are blown out of bottles; and all this is ascribed to the expansion of enclosed air during the passage of the core of the tornado, where it should be expected that the centrifugal force of the whirl should reduce the atmospheric pressure. The explosive effects are not found at the margin of the tornado track, but only close along its center. While they appear to be in accord with all the other facts known about tornadoes, it is still well to be cautious about accepting them without distinct evidence of their verity. In illustration of this effect, the following passage is cited from the account of the tornado at West Cambridge [now Arlington], Mass., in 1852, by Professor H. L. Eustis of the Lawrence Scientific School of Harvard University. "In one case particularly of a factory near the West Cambridge road, the whole effect produced, and to my own mind well and clearly defined, was precisely what we should have, if we could suddenly place in a vacuum a building filled with atmospheric air of ordinary tension. Even the foundation walls were inclined outwards, and there was every evidence of a force acting from the interior to the exterior." (Mem. Amer. Acad., Boston, V, 1853, 177.)

TERMINOLOGY OF STORMS.

In closing this general account of tornadoes, a brief statement may be made of the names that have been applied to storms and atmospheric disturbances of different kinds.

The largest commotions indicated upon our weather maps are characterized by a moderate diminution of pressure over an area of one or several hundred miles in diameter, a system of more or less distinct inflowing spiral winds, turning around the center from right to left in this hemisphere, and accompanied by a large mass of dense clouds, from which rain or snow falls, and above which thin streamers of cirrus generally extend laterally for several hundred miles. These disturbances may be very poorly developed, sometimes being so irregular that it is doubtful if they should be associated with others of more distinct features; but when well developed, the central barometric depression is deep, the winds are violent and the precipitation is heavy; in storms of this kind, especially in those of the tropical regions, it is common to find a central area of about twenty miles in diameter, in which the winds are weak or calm, and the sky comparatively clear. The whole disturbance advances from place to place, producing the ordinary alternations of foul and fair weather in its passage. The general name, storm, is too indefinite to be accepted as a scientific term for the designation of these disturbances; the West Indian word, hurricane, might properly apply to the more violent examples of the class, but not to the weaker ones; moreover, hurricane is now generally adopted as a term in the scale of wind strength, and should be better reserved for that use than for the nomenclature of atmospheric disturbances. Typhoon is a Chinese name corresponding to hurricane, but not introduced into general nomenclature. The word *cyclone* is the only one that has been applied especially to disturbances of the kind under consideration, and it is now generally employed by many writers; but there are certain objections urged against it. In the first place it is contended by some that when invented by Piddington to name the storms of the Bay of Bengal, it was not intended to apply to disturbances of slight violence; but in reply to this, the following extract from the admirable writings of Redfield may be cited: "The term cyclone was first proposed by Mr. Piddington, to designate any considerable extent or area of wind which exhibits *a turning or revolving motion*; without regard to its varying velocity, or to the different names which are often applied to such winds. If used in this sense, it may prevent the confusion which often results from other names, more variable or indeterminate in their signification. Thus all hurricanes or violent storms may perhaps be regarded as cyclones or revolving winds. But it by no means follows that all cyclones are either hurricanes, gales or storms. For the word is not designed to express the degree of activity or force which may be manifested in the moving disc or stratum of rotating atmosphere to which it is applied. It often designates light and feeble winds as well as those which are strong or violent." (Amer. Journ. Science, 2, XVIII, 1854, 188.)

This seems to me to present the case and its needs very fairly and hence I would urge the use of the word cyclone, or of its adjective form, cyclonic, in the description of disturbances of this class. The paraphrases "areas of low barometer," "areas of barometric depression," are to be sure correct, but they are of inconvenient length, and indeed, they are not names at all, but descriptive expressions. The phenomena considered are so well defined in their typical development that they fully deserve a name, such as cyclone; and the less manifest examples may then be referred to as cyclonic storms, or cyclonic areas.

In this connection, mention may be made of the areas of high pressure which so often appear on our weather maps. In many ways they are the opposite of cyclones; having high pressure, outflowing spiral winds, turning to the right in this hemisphere, and accompanied by prevailingly clear and comparatively dry air. On this account, the name *anticyclone* was suggested for them by Galton some thirty years ago, and is still in general use.

In subdividing examples of the cyclonic class, distinction is sometimes made between tropical cyclones and those which originate in extra-tropical latitudes. It is generally the case that the former are the more violent; their central barometric depression may amount to three inches below the mean; their winds are comparatively symmetrical and of great violence near the centre, where the clear eye of the storm is best seen; their clouds are dense and deluges of rain fall from them; their cirrus overflow is widespread, and of about as great extent backwards as forwards. But when these cyclones migrate beyond the tropics and swing along their curved tracks into the temperate latitudes, they cannot be distinguished from cyclones that have originated in the higher latitudes; because in thus advancing they have taken on the unsymmetrical features that characterise our storms; namely, contrasts in temperature and humidity between the front and rear, where winds of unlike origin enter their circuits, variation in the extent of the cloud and rain area on different sides, and a much greater forward than backward extension of the cirrus overflow. Hence, although there may be good reason found for giving different explanations to storms of different latitudes, the features of all are so much alike that all may be included under one name.

Cyclones are unknown within about five degrees of the equator; and their absence in that region of high temperature and humidity is explained by the absence also of a sufficient deflective effect of the earth's rotation to develop the essential whirling on which cyclones depend. But it seems probable that future exploration will discover small or embryonic cyclonic storms, even directly on the equator, where their moderate violence and undeveloped size has thus far led observers to give them other names.

Isolated thunder-storms are common in many parts of the world: not simply storms in which thunder is heard; for tropical cyclones commonly possess abundant electrical action: not simply local showers of rain accompanied by a few claps of thunder; for although both these larger and smaller disturbances may be connected by intermediate forms with the typical thunder-storm, they differ from it in many ways. The typical thunder-storm is a heavy cloud mass, generally longer than broad, and advancing broadside over the land or sea. A long forward reaching outflow of cirrus clouds proceeds from its top; heavy rain and sometimes hail fall beneath it; and when best developed an outflowing wind is felt in front of it at the base. As it approaches, the barometer indicates a slight increase of pressure, perhaps a twentieth of an inch on the average. All these features may be explained as the effects of an active convectional overturning in the atmosphere; the clouds, including the cirrus outflow at the top, and the rain beneath follow naturally from the cooling caused by the expansion of the warm, moist, lower air in its ascent; and when thus regarded, thunder-storms are merely more energetic cumulus clouds; but with the more energetic action appears the series of associated features marking the thunder-storm. The slight increase of pressure and the outflow at the base of the storm are the most peculiar of these; and it has been verbally suggested by Ferrel — it is a regret not to find the statement in his writings where it might be referred to — that both these effects result from the rapid expansion of the ascending mass of air, whereby a reactionary downward pressure and outflow are produced. The presence of these two features may be taken as the marks of fully developed thunder-storms; just as the appearance of the clear central eye may indicate a well formed cyclone. The outflowing wind, particularly in front of the storm, where it is intensified by combination with the progressive motion of the whole disturbance, is often named the thunder-gust; on account of its apparent descent from the clouds, Howard named this wind "ecnephias," which he defined as "ventus fortis, breve et subito ex nimbo erumpens" (Climate of London, 1833, I, 218). Hinrichs has lately suggested in the American Meteorological Journal that this gust of wind should be called the "derecho," a Spanish word meaning straight; chosen because the thunder-gust blows a direct blast of air, in contrast to the tornado, in which it whirls. The arched squalls of the torrid seas are probably winds of the same kind, the appearance of the arch coming from the perspective effect of the long even front of an advancing thunder-storm, as it spreads across the sky. Of all the names suggested for this part of the thunder-storm, the term thunder-squall seems to me most appropriate and satisfactory. Its direct blowing, its sudden coming, its association with the mass of thunder-clouds above, should together suffice to distinguish it sufficiently; and if to these there is added the slight rise of pressure during its presence, it is unmistakably defined.

The tornadoes, or violent vorticular whirlwinds, that occur in this country with unenviable frequency, and more rarely in other parts of the world, have been called by various names. In searching the older accounts, these storms must be identified by the descriptions of them, not by the names given to them; thus J. Derby described a Whirlwind in Dorsetshire, England, that occurred at midnight October 30, 1731 (Philosophical Transactions xli, 1739, 229). He wrote that "there happened at Corne-Abbas, Dorsetshire, a very sudden and terrible wind whirl-puff, as I call it. Some say it was a water spout, and others a vapor or exhalation from the earth; but be it of what name it will, it began on the southwest side of the town, carrying a direct line to the northeast, crossing the middle of the town in a breadth of two hundred yards. It stripped and uncovered tiled and thatched houses and rooted trees out of the ground." Such an account manifestly refers to a storm of the class here considered under the name tornado. The name hurricane was also applied to violent local storms of this kind, especially in the south, where it is still used commonly: Professor Loomis used this word in 1837.

The word tornado came into use with us about the beginning of this century, to name the storms of the kind we are here considering. The Reverend Dr. Stiles wrote "tornado," in describing a storm in Connecticut in 1794. At various later dates, the word is more commonly used. In England, Luke Howard gives a number of examples of the common use of tornado as a name for violent local storms by quoting from English newspapers in 1809, 1811, 1814 and later. But such storms are not common there, and the word is now seldom employed in this connection. Although in this country, tornado is the term adopted by the Weather Bureau, and although it is certainly the most convenient term in use, yet it is clear that the word, tornado, did not originally belong to our devastating whirlwinds. The term comes from the Spanish, although it is not in the Spanish dictionaries; it was brought to England and this country from the western coast of Africa, where it is applied to the thunder-storm squalls that blow off the coast. The word seems to have been chosen to express the sudden shift of the wind as the squall arrives, not to imply rotation. Dampier wrote (Voyages, London, 1705, ii, part iii, p. 6): "Tornadoes do usually arise against the settled wind, yet but few commanders will endeavor to take the advantage of the winds that come from them, but rather furl their top-sails, hall up their corses, and lye still till the gust of wind is past, except necessity requires haste; for the sudden tornadoes do not continue long; and besides are often very violent and fierce, so that a ship with her sails loose would be in danger to be overset by them, or at least lose masts and yards, or have the sails split. . . . Nor are we sure that these winds will continue 3 minutes before they shift, and sometimes they fly round faster than the ship will, tho the helm lies for it; and all seamen know the danger of being taken a-back in such weather. We have sometimes three or four in a day; but then their continuance is short; perhaps not above two hours, and the strength or fury (it may be) about a quarter or half an hour; but accompanied with prodigious thunder, lightning and rain; and the violence of the wind so extraordinary as that it has sometimes roled up the lead wherewith the houses are covered." This description surely applies to thunder-squalls such as have often in later years been observed as characterizing the western coast of Africa; but on importing the word into our country, it has been applied to our whirling winds only.

Unfortunately, a misuse of another kind has sprung up in recent years, chiefly through the use of the term, cyclone, by the newspapers in naming tornadoes. Cyclone is now more generally used in this sense by the people, than in its proper meaning; much to the confusion of our terminology. While it appears to be hopeless to correct this error, it is still customary for meteorological writers to use the words as here defined: cyclone or cyclonic storm, for whirling disturbances of large diameter, generally exceeding one hundred miles; thunder-storm, possessing a thunder-squall when well developed, for comparatively linear disturbances of ten or twenty miles breadth and generally of greater length, advancing broadside, without whirling, although systematically generated in cyclonic areas in most cases in this country;

tornadoes, violent local vorticular whirls, of small diameter. It is hoped that these distinctions may come to be more generally recognized.

FEATURES OF TORNADOES NEEDING OBSERVATION.

It is manifest from the foregoing account that the storm at Lawrence was a true tornado. The description of it on the succeeding pages will show that like other tornadoes, it occurred within the area of a cyclonic storm, from whose general rotary movement its own whirl was presumably developed. It came suddenly, advancing with high speed in a northeasterly direction; its violence was excessive, and although it lasted but a fraction of a minute at any one point, that brief time sufficed for the accomplishment of much destruction. It possessed a vorticular whirling motion, and was accompanied by a hanging cloud partly composed of rubbish gathered from the ground, partly, we may suppose, of true cloud material. It produced at least at one place the appearance of an explosion. The rainfall in its neighborhood was heavy. Although all these matters seem to be well established, the reader should not infer that there is no further need of careful observation of tornadoes. The accounts received from eye-witnesses of the Lawrence tornado were generally very brief; they were written by observers unacquainted with the points that still need critical observation, and hence are more or less open to various interpretations.

When we are again afflicted with tornadoes in New England, it is hoped that this report may have some fruit in securing fuller statements concerning those features of the storms that are here described in their essential features; the pendant funnel cloud, its relation to the clouds around or above it, its whirling motion, an appearance of ascent or descent within it, the occurrence of rain or hail in relation to the funnel cloud, and the effect of the destructive winds on objects of various kinds. While it is recognized that critical observations require coolness and favorable opportunity, and that these are not always to be had as a tornado is approaching or passing, it is still believed that the accounts of tornadoes might be much fuller than they are commonly; for the deficiency in the published accounts is often not by reason of excitement at the time, or from concealment of the action of the storm, but simply from the failure on the part of the observer to bear in mind, while looking at the storm, those points in regard to which there may still be need of definite information.

2. THE LAWRENCE TORNADO.

BY

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GENERAL CONDITIONS PRECEDING THE TORNADO.

During the first half of July a drought prevailed in New England. On July 15, a well developed anticyclone appeared on the Pacific coast and moved slowly toward New England. As it approached New England on July 19 and 20, it was preceded by general light showers, probably due to the development of a small secondary cyclone near the New England Coast. After passing off the New England coast on July 22, the anticyclone remained nearly stationary with maximum pressure of about 30.30 inches, and central a little distance off the coast, until the night of July 25 to 26. On July 23 a cyclone appeared in the upper Lake Region and moved southeastward on that and the following day, slowly eastward on July 25, and rapidly northeastward on the next day. Its eastward motion was apparently checked by the stationary anticyclone by which it was deflected toward the northeast. It was within this cyclone that the Lawrence tornado was formed.

The government weather chart shows the conditions existing over the United States at 8 A. M. of July 26, about one hour before the tornado reached Lawrence. It is there seen that the cyclone is central in Canada north of Lake Ontario, while the anticyclone is off the New England coast. The temperature is slightly higher in front than in the rear of the cyclone, but the contrast is not greater than usual at this time of year, perhaps not quite so great. An area of rainfall stretches from eastern Pennsylvania northeastward across southern New York and central New England to the ocean. On each side of this area the weather is fair.

Over the territory represented by this area of rainfall, the precipitation was almost continuous on both July 25 and 26. The reports of the observers of the New England Meteorological Society show that practically all the rainfall in New England during the passage of this storm fell on these two days. The accompanying chart, Plate IV, drawn from the reports, shows the distribution of the rain which fell during two days. It is seen that an area of more than three inches of rain stretches from southern New York northeastward to southern Maine, and that in the Connecticut valley there was an area where more than four inches fell. On each side of this belt, the amount steadily decreased until, at Montreal, the extreme northwestern station, and at Nantucket, the most southeastern, there was less than a tenth of an inch of rain. The broken curve on the chart represents the area of greatest rainfall on July 25, and the dotted curve its position on the next day. The first represents an area of over two inches of rainfall and the second an area of over one inch. These show that the area of heaviest rainfall occupied nearly the same position on both days, except that on the latter it had turned on its axis, as it were, and lay in a more east-and-west direction. This shifting was participated in by the entire area of rainfall. In northern New England at all of the stations most of the rain during the storm fell on the first of these days, and at some of the stations all the rainfall was on that day; while in southeastern New England most of the rain fell on the latter day.

On the morning of July 26, north of Lawrence the air was filled with fog, and rain fell almost continuously with varying degrees of intensity. South of Lawrence the clouds were higher, the weather showery, and farther south along the coast, the day was fair with passing showers. At 8 A. M. the clouds were moving from the southwest at the following stations; — Killington Peak, Vt.; Northfield, Vt.; New London, Conn.; Block Island, R. I.; Nantucket, Mass.; Mount Washington, N. H.; and from the south at the following stations: New Haven, Conn.; Boston, Mass.; Manchester, N. H.; Portland, Me.; Eastport, Me. (U. S. Weather Review.) These reports indicate that west of Lawrence the clouds were moving from the southwest, while around Lawrence and to the east they were moving from the south.

At Blue Hill Observatory, south of Lawrence, the lower clouds were found moving from a direction between south and southwest during the day. The upper clouds (cirrus) were also visible during the late afternoon, and were found moving from southwest.

POSITION AND DIRECTION OF TORNADO TRACK.

The tornado was located in the southeast octant of the cyclone.

According to reports to the U. S. Signal Service the first notice of an unusual storm comes from Fiskdale, Mass., 63 miles southwest of Lawrence as follows: — "At 7:50 A. M. some trees were torn up with roots, and others broken and twisted off. The path was about 4 rods." A second report comes from North Billerica Mass., 12 miles southwest of Lawrence as follows: — "Rain cloud with white bone in mouth, high southwest wind breaking large limbs from trees, and unroofing light buildings; motion rotary: duration about 3 minutes at 9.00 A. M."

The tornado next passed across Lawrence and North Andover. According to the *Boston Globe* "a tremendous rain and wind storm passed over Haverhill soon after 9 o'clock. Rain fell in perfect torrents for 20 minutes. The sewers proved inadequate to carry off water, and streets were flooded. Much damage was done all over the city."

A final report comes from Newburyport, Mass., 17 miles northeast of Lawrence, Mr. F. V. Pike writes: "From 7 to 9 A.M. it was cloudy, with occasional light rain, light SW wind gradually freshening and veering to S. About 9.20 to 9.25 A.M. while at work at my office, I noticed that the wind had risen to 15 miles or so. Soon it grew very dark and I went to my front window facing about E by S. This, as nearly as I could afterwards fix it—for I did not take my watch out at the moment—was 9.32 A.M. As I reached the window my attention was immediately attracted by a remarkable disturbance in the clouds. The dark cloud had passed the zenith, perhaps 40° or 45° and extended from S to NE. In the SE quadrant, the clouds were moving with unusual rapidity from about S; and at the same time those in the NE octant—I could not see west of N—were moving nearly as rapidly from NW or WNW. Overhead they were moving from W. Just about due E of me, where these clouds united from both sides, was a mass moving E characterized by intense darkness and great turbulence. Just about as I reached the window heavy rain began to fall, and the wind changed from S to NW at that moment, or perhaps a little earlier. The dark mass in the east moved rapidly forward, continually descending toward the earth and then drawing up again. At times the movement seemed to be bodily downward, at other times it appeared due to the formation of new cloud particles which were continually rising into the mass, as is often seen on the front edge of a squall. Sometimes it descended nearly low enough to come in range with the top of a church steeple and factory chimney, one-fourth and one-half mile east, respectively. All the while the mass was in a state of great agitation, but I could not say certainly that I detected any distinct whirling. However, the agitation was so great and the convergence of the clouds from different directions so noticeable that I remarked to a friend that I believed we had just escaped having a tornado."

These places are nearly in a straight line, and the times agree in such a manner as to indicate that they were visited by the same tornado. Its course is indicated on Plate IV by a series of small cross-lines joining these places. Over most of this track, however, the tornado did not reach to the earth's surface.

An estimate of the velocity is given in the U. S. *Monthly Weather Review* thus: "The time at Lawrence is given as 9.10 by one man and 9.15 by another. Assuming this time as 9.13 we have the following velocities of progression: Fiskdale to N. Billerica, distance 51 miles; velocity, 44 miles per hour. N. Billerica to Lawrence, distance 12 miles; velocity, 55 miles per hour. Lawrence to Newburyport, distance 17 miles; velocity, 54 miles per hour. These results are very satisfactory and show a velocity of nearly a mile a minute near Lawrence."

According to the same writer the velocity of the cyclone, or general storm, in the southeast of which the tornado originated, had a velocity of 39 miles an hour. It is further stated that "Reports from more than 30 stations about Lawrence show that just at this time, or a little before, the wind was gentle and from a southerly direction."

PLUNGES AND RISES OF THE DESTRUCTIVE WINDS.

The distances between the points where destruction was reported indicate that the destructive winds at points along the course descended to the earth's surface and then after a short track of destruction rose again. This rising and descending of the destructive winds was very noticeable at Lawrence where the writer examined the track.

The tornado descended to the earth about a quarter of a mile southwest of Lawrence in an orchard which it damaged. "It then passed to the grounds of the Cricket Club (several acres inclosed by a tight board fence 8 feet high). This fence was leveled and except for a short distance on the southwest corner was thrown outward from the center in every direction" (U. S. Weather Review). The destructive winds then rose, but began to descend again just before crossing a branch of the Merrimac

River and entering Lawrence. A tree standing on the east side of this stream had its top branches broken, and bent from the west. Branches on the west side of the top were partially broken off, and at the same time twisted around so as to point toward the east. Branches beneath the top were uninjured.

As the tornado crossed the stream, the destructive winds descended to the earth's surface. Several trees standing near the bank of the stream were uprooted or broken off, and a small out-house was overturned. A short distance beyond these was Emmet Street, and a cluster of frame houses. Two or three of these were completely demolished. Another was turned upside down, and one or two moved from their foundations. Beyond these a grove of trees was leveled, and the destructive winds again rose from the earth's surface. The last tree injured was a large oak, and only the top branches were broken. These branches were bent in the direction of the tornado track. The tree had apparently stood a short distance south of the center of the tornado. The west limbs were first broken and bent in toward the center, then pulled around in the direction of the tornado motion. The area of destruction was here about an eighth of a mile long, and several hundred yards wide. It was widest in the middle, and narrowest at the ends. After leaving the earth's surface the tornado passed over one of the most thickly settled parts of the town. The writer passed through this part of the town a short time afterward, and did not find the slightest indication of injury by wind to even the frailest structures. After about an eighth of a mile the destructive winds again began to descend. The first object injured was the tower of a Catholic church. The roof was torn from the tower and the upper part of the wall injured. A little farther on the extreme rear end of the roof of the church was torn off, and a part of the wall thrown down. Immediately beyond this the destructive winds reached the ground. A part of a railroad bridge was destroyed, killing one or two persons, and a frame house demolished. A very short distance beyond this house a residence was uninjured, and it may be that the destructive winds had again lifted, though it was impossible to determine this with accuracy because the track of the tornado here lay across a large unoccupied space. The destructive effects again became visible as the tornado entered a thickly settled part of the town west of Union Park. The tornado was here apparently at its full force. It passed centrally down Springfield Street between two lines of frame houses causing fearful destruction to property, and a considerable loss of life. Continuing in its full fury it passed across Union Park leveling numerous trees, and destroyed and injured a number of houses beyond. Then the destructive winds again lifted, breaking off the top limbs of a large elm tree, and bending them in the direction of progressive motion as in previous cases. This tree was the last object injured at Lawrence. The path of destruction was here over half a mile long and two or three hundred yards wide.

After traveling a half-mile or more beyond this, the destructive winds again descended in the adjoining township of North Andover. Here a number of trees were overturned and several houses wrecked or injured, one person being killed in the ruins.

That the rapid winds which caused the destruction were at work among the clouds between the points where they touched the earth's surface is evidenced by several reports. According to a telegram to the *Boston Herald* from Lowell, the township just west of Lawrence: "People here remarked the peculiar appearance of the cloud that passed over here about 9 o'clock, and several suggestions were made of its similarity to the description of western cyclone [tornado] clouds." The passage of the tornado near Newburyport was indicated by the agitation among the clouds.

THE TESTIMONY OF EYE-WITNESSES AT LAWRENCE.

The appearance of the tornado as described by eye-witnesses and given below is mostly extracted from the newspapers.

Mr. Porter of the Glen Paper Co. said:

"The whole cause of the catastrophe was a big brindle cloud which came up in the west about 9 o'clock. It lurked along the horizon for an hour or more, growing blacker and more brassy all the time. Finally it made a leap aloft, like a giant jumper, and came tearing down from the hills at the rate of 60 or 70 miles an hour. The noise of its approach could be heard for a mile or more. It was like the surf on the beach in a big storm, or like the noise of artillery in battle. In the center the cloud was jet black, then came a ring of smoky brass color, and outside of all was a fringe of dull gray that spread out and wrapped the whole sky in a fog-like shade, making the day dark.

"At first the trees swayed a little and the grain bent down on the hills. Then shingles flew off from old roofs and the orchards sent down their unripe fruit. After about thirty seconds of coquetry the avalanche of wind broke and came tearing down upon tenement houses and workshops and stores with the force of a Niagara.

Big elms and maples that were planted with care away back in the days of the Salem witches bowed their graceful tops to the streets, and bowing snapped off near the roots as if they had been of chalk. Fences were lifted from trimly kept gardens and taken away to the estates of neighbors, 200 yards distant, and outhouses fell like grain before the reaper."

Mr. Peter Holt was very near the tornado when it passed through Lawrence. He said it appeared to him as if two clouds were chasing each other around a circle. The cloud in front was moving toward the north. He saw nothing between them, but observation was interfered with by mist and rain.

Mr. C. B. Mody saw the tornado from the telegraph office near which it passed. He said: "There was a terrible fall of rain which began at 9.05 o'clock. The water came down in heavy sheets, accompanied by claps of thunder. Suddenly there was a more severe concussion than previously, and then through the darkness I could see boards, branches, and debris generally flying in the air."

Mr. H. S. Warner who saw the tornado from the same railroad station said: "I saw a large dwelling on the hill near the station literally crushed like an eggshell, and witnessed the loss, complete destruction, or partial wreck of other buildings; saw cars lifted bodily from the track, and great trees snapped short off, or twisted like twigs. The air was filled with flying debris, the darkness was intense, and the rain phenomenally heavy."

Mr. Costello who was at the car shops near the railroad station said the shower before the blast was the heaviest he ever saw, the noise of the rain and accompanying wind was almost deafening, and the darkness was quite unusual, even in a heavy shower. He heard a rattle, which was the falling of the tower and roof of the Catholic church, and, looking toward the bridge, saw two freight cars toppling over. He then ran in the direction of Springfield Street where his home was situated, and toward which the tornado was moving. As he got a view of the street the air was filled with flying lumber, bedding and furniture, while one house after another was lifted and spread over the street. It was not half a minute before it was all over, and the noise of the heavy rain and passing wind was drowned by the cries of the injured and frightened people who were rushing about the streets, struggling to free themselves from the ruins, or crying for help from amid the wreck."

Said Timothy O'Connor: "I was standing near the railroad bridge when the tempest struck. It came like a dense cloud and was whirling over and over like billows of the ocean. I jumped behind a stone wall that was protected by an embankment, and with safety heard the crash of the tempest as it struck the Catholic church. The air was filled with flying timber, shingles and slate that in a second more was hurled down Springfield Street, where the work of destruction was appalling."

Mr. J. C. Curran, a letter carrier, was on the right hand side of the tornado not far from the end of Springfield Street down which the tornado passed. He said: "About 15 or 20 minutes past 9 o'clock, I was walking on Union Street near the corner of Salem Street. Feeling a brisk gust of wind pass me I turned around, but before I had a chance to see anything I was lifted bodily in the air, and was carried over a fence into the yard connected with one of the houses in that locality. I landed on my neck and shoulder, and in no easy manner either. As quick as possible I scrambled to my feet. The sight which met my gaze as I arose from the ground was indeed heartsickening. The houses along Springfield Street were twisting and shaking. The air was filled with flying lumber and trees and everything imaginable which a few minutes before was safely secured on terra firma. The rain was pouring in torrents, so I went in doors."

James Henderson, Jr., was delivering provisions on Springfield Street and must have been very near the center of the tornado when it passed. He tells the following story: "I was standing in front of 101 Springfield Street, and had just cut off a piece of meat and taken it in my hand to carry into the house. Before I got to the door the wind began to blow so hard that the horse became skittish, and I went back to hold it. Then I heard a roaring which seemed as loud as fifty engines going at full speed. Looking along Springfield Street toward the west I could see the dust whirling and coming toward me, and the first thing I knew the wind struck the horse and me from the east. I let go of the horse, and horse and cart were carried clear off the ground. At that time I did not know what became of them, but found afterward that the horse was dropped near me, and all of the cart except the forewheels carried about a hundred yards away. When I let go of the horse the wind threw me against the fence, where I remained crouched and holding fast to two pickets until the fury of the storm was passed."

Joseph Waters said: "I was visiting the Lotus family on Merrimac Street. I was seated at the breakfast table at about 9.15 o'clock. Suddenly I heard a rumbling noise, similar to that made by a railroad train. A moment later I looked skyward, and saw the shingles flying off the roofs of buildings in the immediate vicinity. In a moment everything was confusion. Men, women and children seemed to lose their heads and rushed about like mad. The rain was coming down in torrents. I ran out as far as the gate to see what was the occasion of such confusion. When I had reached the sidewalk I was struck by the limb of a tree which had been broken off a tree a distance of 200 feet away, and blown over the house. It struck me across the chest and shoulders, prostrating me to the ground. For a few minutes I lay unconscious. As soon as I regained consciousness I was dumfounded. Scattered about the street in front of me was the wreckage of two houses. One of them, a tenement house, had been picked up bodily from its foundations and dashed to fragments in the street. . . . For a distance of 500 feet Merrimac Street was strewn with wreckage and broken limbs of trees. Furniture was scattered about where the wind had blown it out of the buildings. A gentleman driving along at the time of the cyclone was blown from his carriage a distance of about 20 feet. The carriage was carried into an adjacent field by the wind and the horse knocked down and badly hurt." When the tornado first struck Lawrence, Dr. Magee was driving in the vicinity of Emmet Street, where the first houses were injured, an eighth of a mile from the Catholic church. "He observed nothing but a moderately heavy shower, until some one told him a building was blown down and a woman was hurt."

Direction of Wind as indicated by Fallen Objects.

Mr. Mills has carefully charted the fallen objects, so that it is unnecessary here to make any except a few general statements, and describe a few groups of trees.

The first objects which were injured, such as the tops of trees, etc., were all carried in the direction of the tornado motion. At Emmet Street where the destructive winds first reached the earth after entering Lawrence all the fallen objects on each side were inclined toward a line on the north, or left side of the area of destruction, and about one-fourth the distance across this area from the north. This line is that along which the center of the tornado cloud probably passed. The fallen objects were also inclined in the direction of progressive motion of the tornado except two trees near the central line described above. These two trees lay at right angles to the track and pointed north.

Most of the houses and trees which were destroyed on Emmet Street were carried in the direction of the tornado movement and inward at an angle of about 45°. One house near the center was picked up, and carried across to the left hand side of the track; while another house near the first was immediately afterward picked up, and carried across the ruins of the first. A grove of trees was here destroyed on the right, or south side of the track. Those near the center were inclined inward at an angle of 70° to 80°, that is, lay nearly at right angles to the track; while those most distant from the center were inclined inward at an angle of 20° to 30°. The smallest trees near the center were those lying most nearly at right angles to the track; while the smallest trees on the outer limits were those most nearly parallel with the tornado track.

When the destructive winds came down near Springfield Street there was the same general inclination of the objects inward and forward, but there were instructive exceptions to this. In Union Park there were fallen trees on the left hand side of the track which were inclined backward, and slightly outward from the center of the track. The writer's attention was, however, more especially drawn to groups of trees in which one or more trees fell over others. Near the center where the tornado cloud probably passed, numerous trees lay at right angles to the direction of the tornado track. In several cases other trees lay over these, and in every case the topmost tree lay most nearly parallel with the track of the tornado, indicating that the trees which fell most nearly at right angles to the track were the first to fall.

The writer sketched several groups of three trees in which the individual trees fell over each other. These trees were all near where the center of the tornado cloud passed and the order in which they lay over each other indicated successive changes in the wind direction. The first tree usually lay at right angles to the track and each succeeding tree above this lay with its top pointing more and more nearly in the direction of the central line of the tornado. The topmost tree in almost every case indicated that the last of the destructive winds in the rear of the tornado blew almost directly toward the center of the tornado cloud.

In one group of three trees, the lowest was inclined about 20° or 25° to the direction of the tornado motion, the second only about 10° and the topmost tree pointed almost directly forward. This appeared to indicate that the wind blew almost radially in the rear of the tornado very near the center and became truly radial at a little distance in the rear.

The fallen objects clearly indicated rapid and systematic changes in the direction of the wind in the tornado.

Comparison with Theory.

According to the theory of Faye (Amer. Met. Journal, Sept. 1890, p. 262), tornado action is brought about by the descent of the air from the clouds. The air is supposed to gyrate rapidly around a center, but at the same time to have a downward motion and near the earth's surface a slight inclination outward. To this theory, however, the facts observed in connection with the Lawrence tornado gave not the slightest confirmation. In general the objects throughout the area of destruction were inclined inward at an angle toward a line passing through the northern limits of destruction, and which was undoubtedly the center of the tornado cloud, clearly indicating an inward tendency of the destructive winds. Again, Faye's theory would require that the larger number of objects which fell on the left hand side of the tornado should fall at an angle inclined outward from the track, and in some or most cases slightly inclined in the direction of tornado motion, because immediately in front of the whirl on the left hand side, the air would have the combined momentum of the progressive movement of the tornado, and the outward inclination of the wind in the whirl. Yet not a single object was found on this side of the track having an outward and forward inclination. Finally, it does not seem clear how objects could be lifted by such outblowing winds, but if they were this theory would demand that such objects as were lifted up should be carried outward, while the evidence in regard to the persons picked up, as well as that of various objects, testify to an inward tendency of the wind.

According to the theory of Espy, now held in a modified form by Hazen, the air moves directly inward toward the center in straight lines. By this theory it is difficult to explain why the majority of objects which fell directly in front of the tornado cloud fell at right angles to the center, and more difficult to explain why certain trees on the left hand side of the track, which were inclined backward in the direction from which the tornado came, were also inclined outward from the center. Again, it is difficult to explain why the damage of the inblowing winds was not so great on the left hand side of the tornado as on the right, whereas, in fact, the damage was fully four times as great on the right. Finally, the testimony of an eye-witness that he saw two clouds chasing one another around, seems difficult to explain on the supposition that there was no whirl in the tornado.

The theory of Redfield (Whirlwind Storms, by W. C. Redfield — New York, 1842) and Ferrel is that the air moves inward toward the center in spirals. At the outer limits the motion is most nearly inward and may on the extreme border be almost directly inward. As the air approaches the center, it increases greatly in velocity and becomes more circular, until near the center it moves around in almost perfect circles. In the Northern Hemisphere the whirling is from right to left, or in the opposite direction to the motion of watch hands. When such a whirl has a progressive motion the resulting motions are modified as follows — "On account of the general progressive motion of the air, nearly in the direction of motion of the tornado, the absolute motion of the air in the front of the tornado is nearly at right angles to the direction of the path, or perhaps generally inclined a little forward, the progressive motion counteracting, and even more, the inclining of the wind toward the center. But in the rear of the tornado, the progressive motion increases the inclination toward the center, and here trees are overthrown and objects carried nearly toward the center, and in the direction of the storm's path. . . In consequence of the progressive motion in the rear of a tornado being more nearly in the direction of the gyratory motion, the winds in the rear are usually stronger than in the front part, and so the stronger trees, which are not overthrown in the former, may be prostrated in the latter. Where the right hand side of a tornado passes over a place, the trees may be first thrown toward the NW or N, but mostly by the south quadrant of the tornado toward the NE, for here the gyratory and progressive motions most nearly coincide in directions, and consequently the resultant velocities are the greatest: and this is the most dangerous part of the storm. But if the left hand side pass over a place, the trees may be thrown successively toward the NW, W, and SW, and by the western quadrant even toward the S or SE. (A popular treatise on the Winds: Ferrel — p. 396.)

This theory is founded on well known physical laws, and with perhaps one or two exceptions to be mentioned later, so fully and completely explains the phenomena observed at Lawrence that it is difficult to doubt its truth. The greater width and the greater severity of destruction on the right hand side of the tornado as compared to the left, the general inward inclination of fallen objects, and the prevailing inclination of such objects in the direction of the tornado's progressive motion are fully explained.

The groups of trees sketched by the writer, indicate that the trees which fell in front of the tornado center fell at right angles to the track. As the tornado moved off, the fallen trees in one group indicate that the wind blew more and more inward; and the top trees in all indicate that the last of the destructive winds in the rear blew almost directly toward the tornado.

The two clouds moving round in a circle with the front cloud moving toward the north seen by Mr. Holt appears further to confirm the existence of such a circulation of the wind as described by Ferrel.

Mr. O'Connor's description of the tornado that "It came like a dense cloud and was whirling over and over like the billows of the ocean" might appear contradictory; but it reads to the writer more like an attempt to describe the extreme agitation and the varying density of the volumes of rubbish and debris which were being hurled inward.

The only phenomena observed by the writer which does not seem readily explained by Redfield and Ferrel's theory of the circulation of the winds were those which gave evidence of the sharply bounded under limit of the destructive winds when they lifted above the earth's surface. There did not appear to be any noticeable wind beneath them at the earth's surface, even at places where the unusual commotion was seen in the clouds above. The explanation will, however, probably be found connected with the same cause as that which gives rise to outblowing winds beneath a thunder-storm.

The general inward motion of the air in the tornado indicates that there must be an upward motion; and, according to Ferrel's theory, the air as soon as it approaches the center begins in part to ascend in a helix, like the thread of a screw. The inclination below is inward but above outward from the center.

That a strong upward movement of the wind existed in the Lawrence tornado was shown by a number of facts.

THE VELOCITY OF THE VERTICAL WIND.

Mr. Lyons who lived on Emmet Street, where the tornado first struck Lawrence, said that he was lifted up into the air by the tornado, and then dropped to the earth.

A hack driver said he was near the Catholic church during the tornado. It was raining very hard, and he felt his carriage tip up as if it were going over. His horses were lifted off their feet, and he sprang to the ground in season to seize their heads and hold them for a moment until the great wave of wind had passed.

Two other men, whose description of the tornado has already been given, told of being lifted up and carried some distance. One of them was lifted over a fence. Another man on Springfield Street, told of his horse being lifted up and carried a short distance.

On Springfield Street a one story frame house was turned upside down, and stood on its stone foundation with its roof crushed in, and only slightly displaced from where its base had previously been. The house was apparently lifted up, turned over in the air, and then dropped.

An upward movement of the wind sufficient to lift men, horses and houses must have been very rapid, and a vertical component of more than one hundred miles an hour appears necessary.

Some laths and plastering were found outside of the limits of destruction in Union Park, and these were probably carried up in the whirl and thrown out at the top.

Explosive Effects.

The following story of Mrs. Lizzie Holdsworth given in the *Boston Herald* indicates an explosive effect resulting from expansion of confined air as the tornado passed over. She lived at 27 Springfield Street, and said: "Just as it commenced to rain I started a fire in my cook stove which, together with a large kerosene oil stove, occupied places in the kitchen. While caring for the fire I heard it raining outside. It seemed to be pouring in torrents. Suddenly I heard a terrific noise and the breaking of glass behind me. Turning around I saw that the blinds and windows had been blown out. I started towards the window, but I guess I never got there. I heard one crash and that was all. When I came to I was lying in the ruins."

In all of the partially destroyed houses examined by the writer the walls had fallen outward, and were not blown in as one might naturally suppose by the sudden wind.

Loss of Life.

Eight persons were killed, and fifty-two or more injured; twenty or thirty of these were severely injured.

Cause of the Tornado.

The contrasts of temperature around the cyclone in which the tornado originated were not unusual. The temperature and humidity in the part where the tornado occurred were high, but not higher than observed on several other occasions during the same month. At the morning observation the vertical decrease of temperature between the summit and base of Mt. Washington, as determined by the difference between the observed temperature on top, and the temperature under Mt. Washington, indicated by the isothermals drawn on the weather map, was 16°. The temperature at Northfield was 68°, at Portland, 66°, and on Mt. Washington, 52°. The normal difference between the top of Mt. Washington and sea level at this time of year is 20° or slightly more, so that it is evident there was no unusual vertical decrease of temperature in the lower atmosphere on the morning of the tornado.

The only area of rainfall shown in the vicinity of the cyclone on the 8 A. M. weather chart was an elongated area extending from Pennsylvania across central New England. The rainfall within this area was extraordinarily heavy as shown on Plate IV.

The series of x's on this chart shows approximately the track of the tornado, and it is seen that it moved along parallel with, and not a great distance from the major axis of the area of greatest rainfall on July 26, which is inclosed by dotted lines.

To explain this area of heavy rainfall it is necessary to suppose a comparatively rapid ascent of air along the area in which it occurred, and an inward tendency of the surrounding air on one or more sides. Given such conditions and it is only necessary to suppose slight differences in the direction or the velocity of the inward and upward moving air in order to explain the origin of one or more whirls. The cloud and wind directions on the south side of the track indicate that there were such differences in the wind and cloud directions; and the writer is led to believe that the tornado was largely a mechanical effect produced in the manner described. Its tremendous energy may have been due to immense moving bodies of air thus conflicting and spending their energy over a narrow area.

This does not eliminate the possibility of temperature gradients as an additional or sustaining cause. The time of year, the high temperature, the high humidity, and the position of the tornado in the general cyclone all indicate conditions favorable for local storms. The latent energy liberated by the immense quantities of vapor condensed into rain must have largely prevented the cooling of the air, and this implies a great impetus given to the ascending air.

The writer is inclined to think, however, that the origin of the ascending currents which produced the rainfall was also a mechanical effect brought about by the impinging of the cyclone against the stationary anticyclone on the Atlantic coast, and greatly increasing the gradients. He has usually found heavy rainfalls associated with such conditions, and has several times predicted them a day in advance.

With the exception perhaps, of the originating impulse, the writer believes that Ferrel's theory of tornado formation sufficiently explains the phenomenon observed at Lawrence.

According to Ferrel's theory: (A popular Treatise on the Winds: Ferrel— p. 364) "In the origination and first starting of a tornado, the force which overcomes the inertia of the air and causes motion, is the difference in pressure, depending on the difference of temperature, between the interior and exterior. This, in the lower strata of the air, is a centripetal force, and as the air is drawn in toward the center the velocity is accelerated and where there is initial gyratory motion, the body is at the same time deflected from its course. . . . After the vertical and gyratory circulations are fully established the whole force arising from difference of pressure due to difference of temperature, goes to overcome the frictional resistance, and no part to creating motion and kinetic energy and the velocity of the vertical circulation is such that the resistances are exactly equal to the forces."

Ferrel attributes the difference in pressure to difference in temperature within the area of the tornado; but in the Lawrence tornado it appears to the writer more probable that the originating impulse came from differences of pressure and motion having their origin outside of the immediate field over which the tornado formed.

The tornado evidently originated among the clouds and only descended to the earth's surface at intervals.

3. EVIDENCES OF VORTICULAR MOTION IN THE LAWRENCE TORNADO.

BY

HIRAM F. MILLS, C. E.

Marks of destruction were left by the tornado for a distance of two miles, the last tree blown down bearing from the first, North, 60° East. The path, however, was not straight; it was parallel with and about one quarter of a mile southerly from the Merrimac River, bearing more northerly at first and nearly east in the latter part of its course.

The objects thrown down by the tornado in the first half mile of its course were a few scattering trees, then the roof of a barn, then a high fence around a square, then trees in a low lying grove and finally a grove of large pine trees on the windward side of a hill. In this distance the only evidence of a whirl that I have found is the greater destruction in the southerly two thirds of the width of destruction, and the movement of these objects forward and towards the northerly line of disturbance, while in the northerly one third of the width the destruction was less complete, and the direction of movement was not toward the southern side but was in the general direction of the storm. There was here no indication of a backward movement along the northerly edge.

If vorticular motion existed in this section of the path, the velocity of rotation was only sufficient to increase destruction on the side where it was acting in the direction of the onward movement of the storm, and was not sufficient on the side where moving across or against the storm's progress to prevent some destruction by the onward movement.

In the next quarter of a mile the tornado appeared to pass above the tops of many houses and left no marks but a few broken limbs of trees. After this it came down with destructive effect, breaking off trees and throwing down nearly all of the houses in its path. Here, as before, for more than a quarter of a mile, the destruction was principally in the southerly half, or two thirds, of the path, the movement being generally forward and toward the northerly side. There was some movement inward along the northerly side but much less than on the southerly side.

The first large object shown to be moved westerly or contrary to the direction of the storm was a two story house near Union Street. This was the most northerly object moved in this vicinity. It was more than a mile from the beginning of the path of destruction and is the first indication of very rapid rotary motion. Many similar indications were found throughout the next third of a mile in which the path was across a wooded park.

The tornado occurred on July 26. On August 22, I made a survey of the trees in this section. At this time many of the trees that had been broken off had been cut or changed in position; but, except in the eastern part of the park and the land directly north, nearly all which were uprooted remained in position, and all of these are represented on the accompanying plan in their proper directions with a cross mark at their roots. The broken trees that had not been moved are also shown, with a circle or no mark across at the root.

If the results were produced by a pressure of wind along a path with side pressures towards the center we might represent the result approximately by dividing the path into three sections; the middle third having direction parallel with the axis and the two outer thirds having directions turned toward the axis about forty-five degrees.

The map shows clearly that the results were not so produced.

If the results were produced by a whirl from right to left, having great velocity compared with its onward motion, the southern section would not characteristically differ from the former case; the middle section would have trees pointing northerly nearly at right angles with the path and the northern section would have trees pointing outward and backward about forty-five degrees with the path.

Indicating as nearly as may be the center line of the path of destruction we find that in the middle section there are eleven trees which are nearer parallel than at right angles, and thirty-nine trees that are pointing northerly or northwesterly, and are more nearly at right angles than parallel with the path; that is seventy-eight per cent are as they would be if left by a whirl and as it would be impossible for them to be without a whirl.

In the northern third of the path of destruction there are eighteen trees out of forty-four that have directions nearer an inward forward direction than an outward backward direction, the remainder, or 60 per cent, are in a direction nearly opposite that which they would have if there were no whirl, and were in positions they could not take without a whirl.

There are twenty-nine trees in the northern two thirds of the area of destruction which might have had their position if there had been a stream of air rushing northeasterly, and sixty-five trees, or seventy per cent of the whole number, in positions entirely inconsistent with such a stream, and just as they would have been with a whirling motion in the direction, from right to left, in which it was seen to whirl by a careful observer stationed in front and beyond its northern edge.

But there is another point to be noted: of the twenty-nine trees in the direction of the stream nine were not uprooted, but were broken off or bent over; one of them lying nearly in the direction of the path was twisted more than one quarter round, and others are among those which fell after the first action of the whirl, — shown by their being on top of those turned more westerly, — and may have been bent or broken by currents of air flowing in behind the whirl as it sped on, a mile in a minute, or, which appears to me more probable, may have been bent or broken by the front of the whirl and placed in their present position by its rear.

With a whirl moving in the direction in which this was seen to move, it is evident that the work done by the forces in the northern part of the path can be but a fraction of that which can be done in the southerly portion.

Nearly all of the work done by a whirl must be done by the half of the whirl in front of a diameter through its axis normal to the path, but in a grove of trees it is evident that the front half of the whirl may break some of the roots of a tree without overturning it, and the rear half may complete the overthrow in a direction more nearly that of the general path of the storm. This is probably the reason why many of the trees that were on top were more nearly in this direction than those which fell first.

No one could have seen the trees as they lay in the park, and no one acquainted with the path taken by a particle in a whirl moving along a line, can study the map of the trees, with the facts that were reported to the Society, without seeing that the destruction was caused by a whirl or a series of whirls and that the whirling was in the direction seen by Mr. Peter Holt.

Beyond the park the most northerly object moved was the gate tender's house on the railroad; this was moved directly west about forty feet. Easterly from the section shown by the map, the destruction was adjacent to and on the southerly side of the railroad. The fallen trees were in its southern section and do not give characteristic data. It continued for about half a mile, moving one house and destroying a barn and a few trees just before it disappeared.

Near its termination, a switch-tender upon the railroad saw it coming and ran from his house and lay in the ditch by the side of the railroad while it passed over him. He reports very little rain falling at that point and describes the debris moving with great velocity in a whirl above him.

Description of Plate II to V.

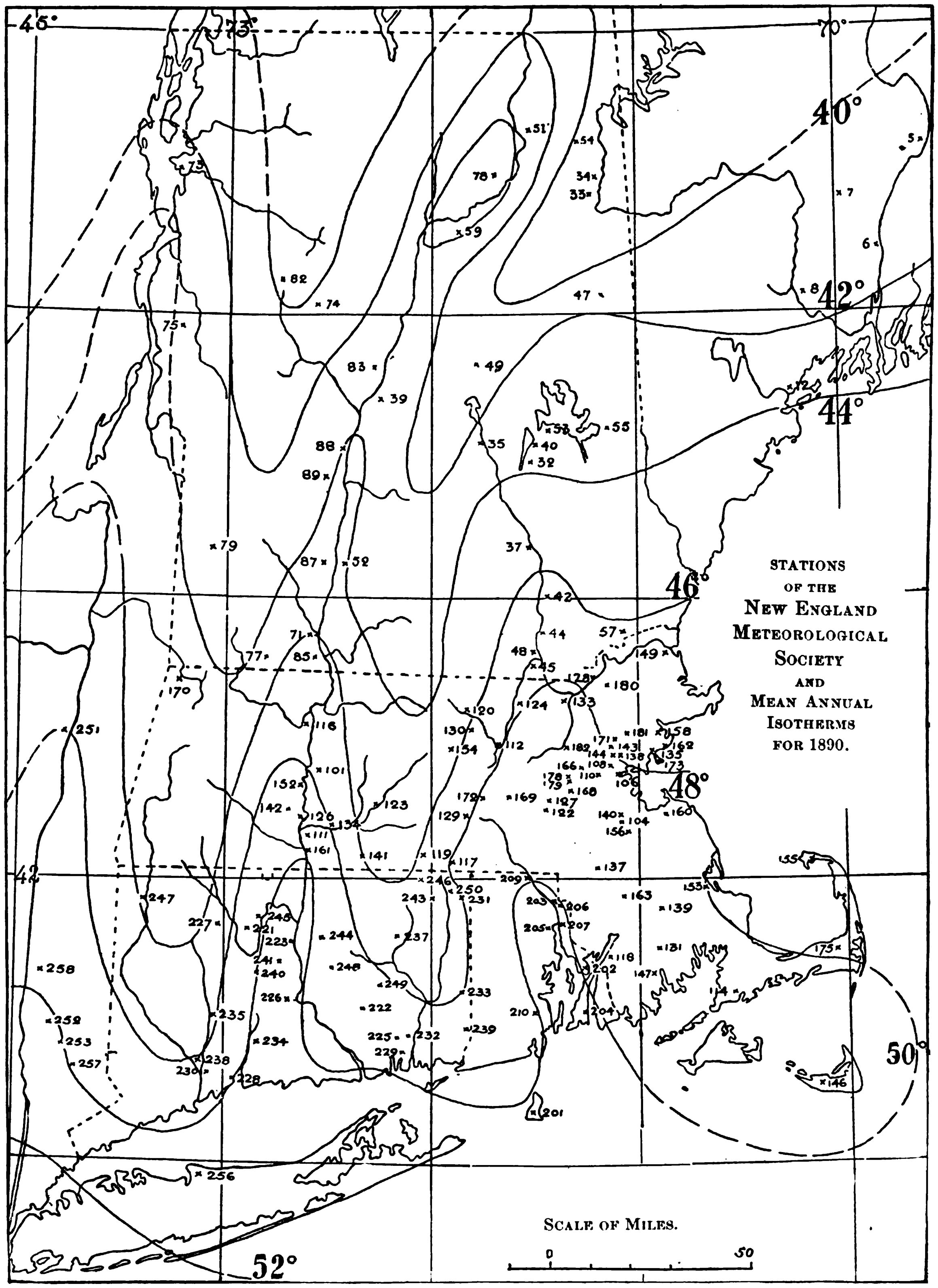
Plates II and III contain reproductions of four photographs taken at Lawrence, Mass., and provided by Mr. H. F. Mills, showing the effects of the tornado of July 26, 1890. The upper half of Plate II presents a view on Springfield Street, between Foster and Union Streets, or near the east end of Springfield, looking southwest toward the direction from which the tornado came. (See Plate V.) The houses seen in the picture were on the right side but near the middle of the tornado track and the debris of a large house which was utterly demolished and drawn in toward the center is shown in the foreground. A second house which was turned upside down and had its roof crushed in is also shown at the extreme left. Six persons are reported to have been severely injured in these ruins. The lower view in the same Plate is taken looking southwesterly at the east end of Market Street, near Union, and shows a house which stood on the south side of Market Street, facing north. This house was in the northern limit of the disturbance and was carried eight feet to the west. It was simply moved bodily off its foundation, leaving the east side (the side toward the observer) unsupported and settling into the cellar.

The upper half of Plate III is a view looking southward from the north side of Springfield Street, near its west end: this part of the street is not shown in Plate V. The destruction here illustrates the tremendous force with which the house on the right was thrown against the other. The lower half of this Plate shows two houses situated on the south side of Springfield Street, not far from Foster Street, and near the center of the tornado track. It is said that the roofs and sides were carried off of these houses, leaving the furniture intact and the occupants uninjured, except that a girl was blown out of the second story of one of the buildings and an infant was injured in the other. These results may have been due to the explosive force of the air confined in the houses as the tornado center passed over them.

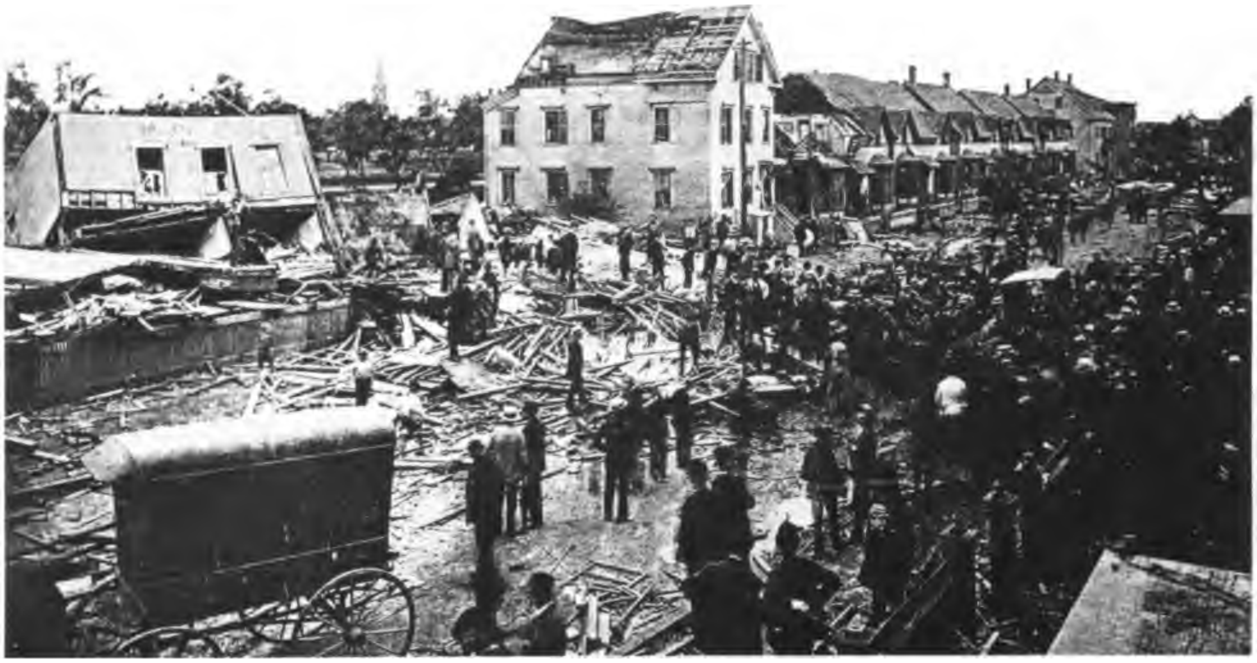
Plate IV shows the rainfall area over New England on July 26, 1890, in connection with the cyclone which passed down the St. Lawrence valley. (See page 151.) The track of the tornado is indicated by a series of crosses.

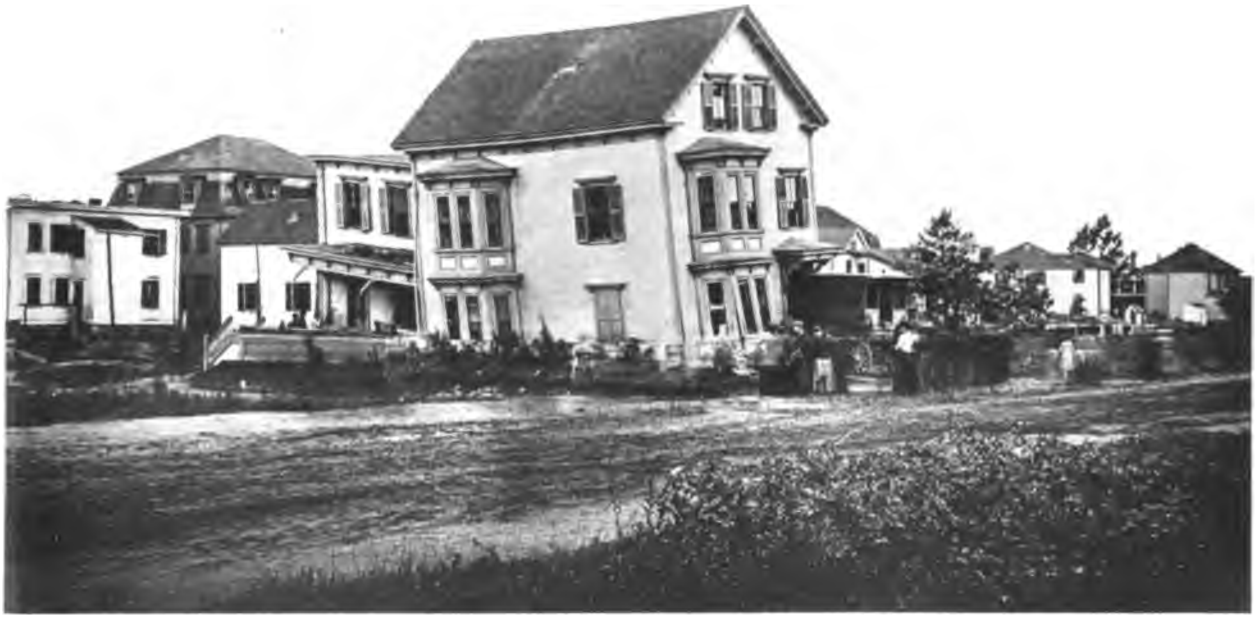
Plate V gives a map of a part of South Lawrence, showing the streets named above, and indicating the location of trees in Union Park, as left by the tornado and surveyed on August 22, 1890. This is reproduced from a map prepared by H. F. Mills, C. E., of Lawrence. The memoranda concerning the damage to buildings, etc., are from notes made by Mr. Mills shortly after the storm.

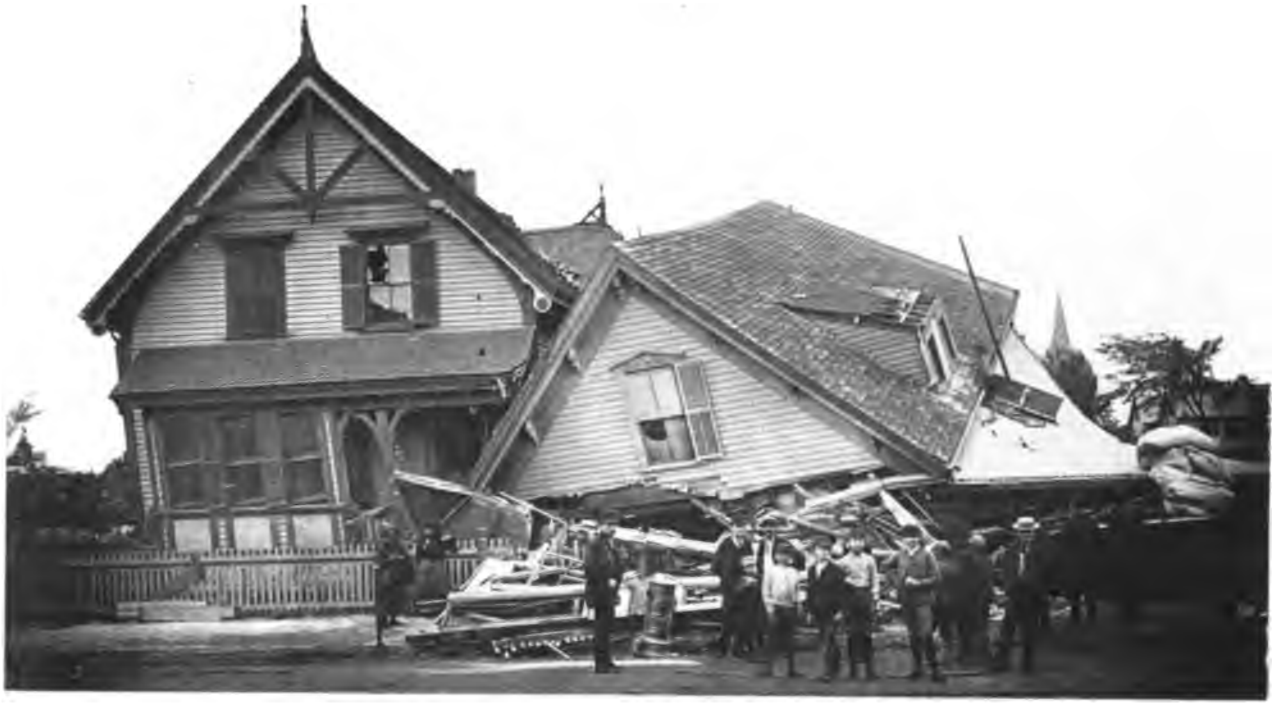
PLATE I.



STATIONS
OF THE
NEW ENGLAND
METEOROLOGICAL
SOCIETY
AND
MEAN ANNUAL
ISOTHERMS
FOR 1890.







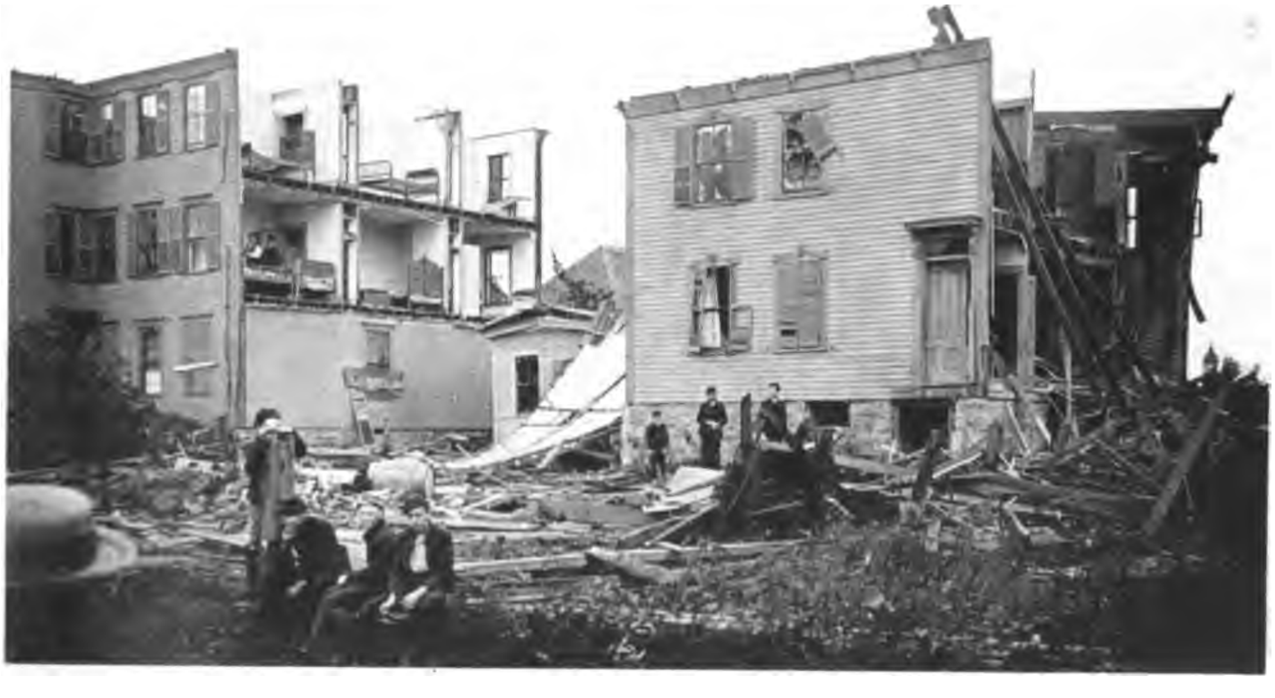
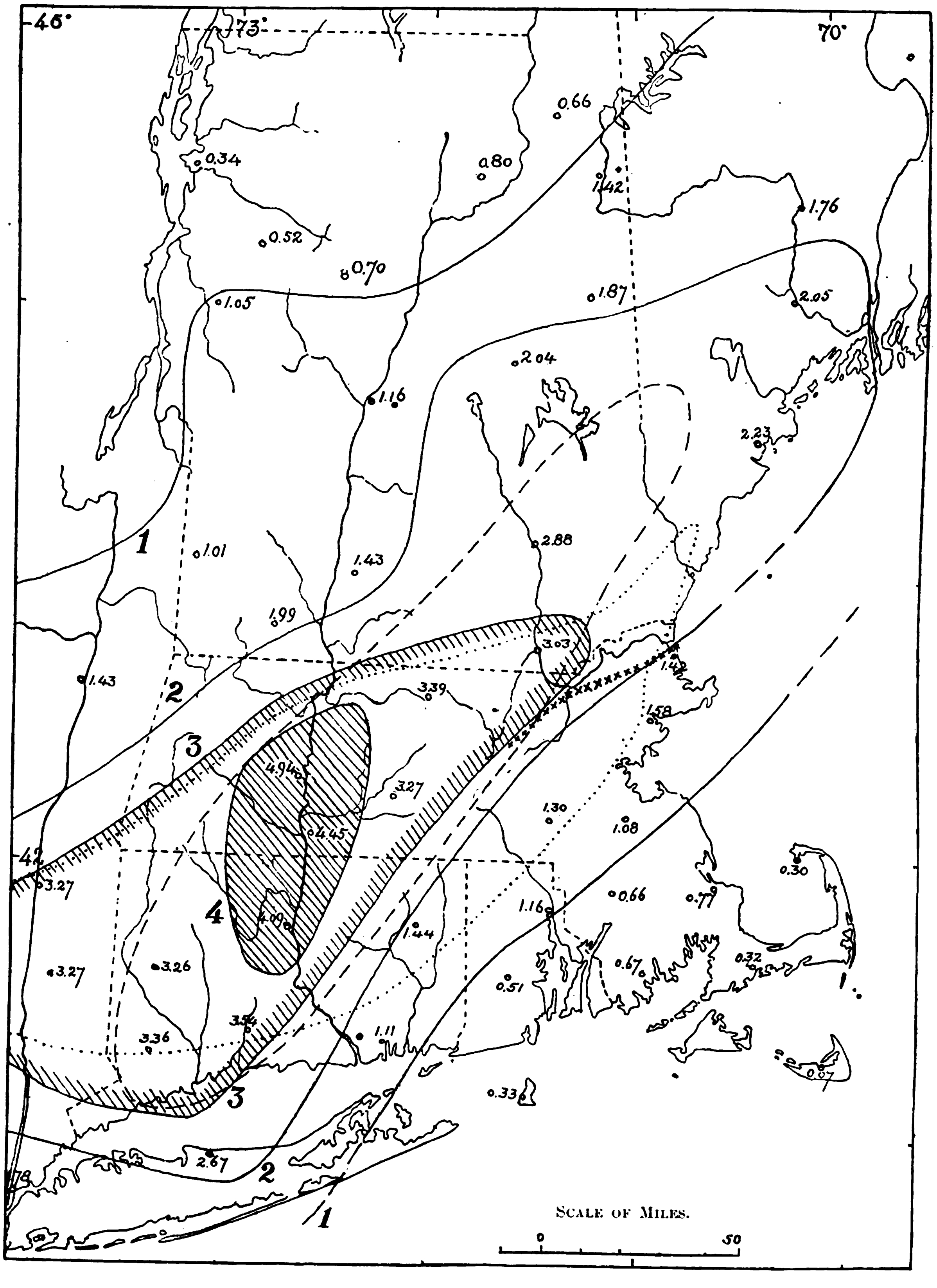
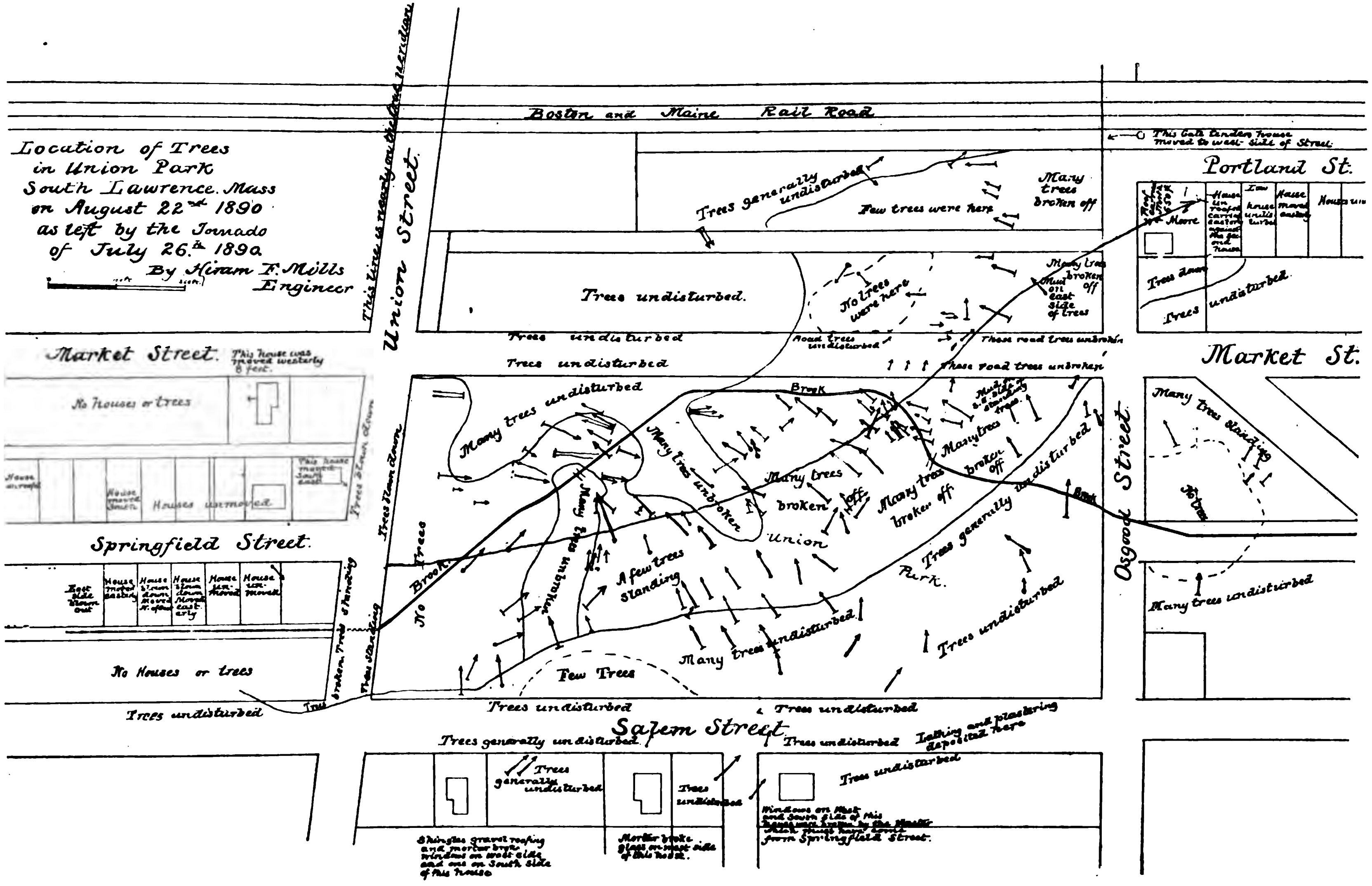


PLATE IV.


45°
73°
70°
42°
0.66
0.34
0.80
1.42
1.76
0.52
0.70
1.87
2.05
1.05
2.04
1.16
2.23
2.88
1
1.01
1.43
1.99
3.03
1.42
1.43
2
3.39
1.58
3
4.94
3.27
1.30
4.45
1.08
3.27
4
4.09
1.16
0.66
0.77
0.30
1.44
0.67
0.32
3.27
3.26
0.51
3.54
3.36
1.11
0.33
0.07
3
2.67
2
1
Scale of Miles.
0
50



Location of Trees
in Union Park
South Lawrence. Mass
on August 22nd 1890
as left by the Tornado
of July 26th 1890
By Hiram F. Mills
Engineer

ANNALS

OF

THE ASTRONOMICAL OBSERVATORY OF HARVARD COLLEGE.

EDWARD C. PICKERING, DIRECTOR.

VOL. XXXI.—PART II.

INVESTIGATIONS

OF THE

NEW ENGLAND METEOROLOGICAL SOCIETY

FOR THE YEAR

1891.

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1893.

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OBSERVATIONS

OF THE

NEW ENGLAND METEOROLOGICAL SOCIETY

IN THE YEAR 1891.

INTRODUCTION, BY WILLIAM MORRIS DAVIS, DIRECTOR OF THE SOCIETY.

It is deemed advisable to preface the following summary of the observations made for our Society in the year 1891, by a brief statement of work that has been accomplished since our organization, for the reason that, on account of certain important changes in plans since the close of 1891, it is probable that no future summary of this character will be issued.

The New England Meteorological Society was organized in the autumn of 1884 for the purpose of promoting meteorological science in New England. With this object in view, an attempt was at once made to enlist the assistance of volunteer observers, as has been done by the local weather services of various States, and thus to secure material for the publication of a monthly Bulletin of meteorological records. At the same time, it was planned that three meetings of the Society should be held each year, and that special investigations should be undertaken as opportunity offered. Some account of the latter will be found in the Investigations of the Society for 1889, as published in Volume XXI of these Annals. The proceedings of the meetings have generally been reported in current numbers of the American Meteorological Journal. The first number of the Bulletin, whose development is our chief concern at this time, was issued for November, 1884, as an octavo pamphlet of eight pages, containing reports from thirty-six observers, and a small chart illustrating the distribution of precipitation for the month. The number of observers then increased so rapidly that it would have been impossible for the officers of the Society, who were all busily engaged on other labors, to prepare the monthly reports for publication; but at this critical juncture, the Chief Signal Officer, U. S. Army, desiring to extend the display of weather signals in New England, placed a member of the Signal Service at the disposal of the Society, with the understanding that as much of his time as was not needed to care for the introduction of weather signalling might be devoted to assisting our officers in the preparation of the Bulletin. Thus reinforced, the Bulletin was maintained with almost continuous growth for several years until about the present number of observers was reached. As the limited funds of the Society were still insufficient to secure the publication of our records in desirable fulness, the offer of the Director of the Harvard College Observatory to publish the Bulletin in connection with the Annals of the Observatory was gladly accepted. The change was made with Bulletin No. 39, for January, 1888; and since that time the monthly quarto report that has been distributed to members, observers and correspondents has been essentially an advanced reprint from the Annals of the Observatory with the addition of a page of text in each number, describing the weather of the month.

The transfer of the general system of meteorological observations over the United States from the Signal Corps of the Army to the Department of Agriculture, Weather Bureau, on July 1, 1891, in no way interrupted the relations between the Society and the national service at Washington; the interest in our work before manifested by General A. W. Greely, Chief Signal Officer, being continued by Professor M. W. Harrington, Chief of the Weather Bureau.

During recent years and especially in 1891, it became more and more apparent that a considerable variety of work carried on under the auspices of the Society could be performed to better advantage if it were transferred to another organization. The work referred to was performed by Mr. J. Warren Smith, of the United States Signal Service and later of the Weather Bureau, who was at the time acting as assistant to the Society and editor of its Bulletin. It was therefore decided early in the year 1892, with the full approval of the Chief of the Weather Bureau, to establish a New England Weather Service. All the work of our Society connected with current observations was thereupon handed over to this new Service, of which Mr. Smith became director; and the continuation of records presented in the following summary may in future be expected as reports from that Service.

Thus relieved of a large amount of routine work, the Society is left free to hold its meetings for general discussion or to undertake those special investigations which from its first organization have constituted one of the prime objects of its existence. It is desired that the investigations may be continued and that they shall from time to time furnish material for publication in later volumes of these Annals, under the title already adopted.

METEOROLOGICAL SUMMARY FOR THE YEAR, 1891,

BY

J. WARREN SMITH,

U. S. WEATHER BUREAU, ASSISTANT AND EDITOR OF BULLETIN.

The number of voluntary observers reporting to the Society at the beginning of the year was 152. Four of these discontinued observations during the year, two ceased on Dec. 31, 1891, and sixteen new observers were enlisted, making a total of 162 active voluntary observers at the end of the year, besides eleven stations of the Weather Bureau from which reports are regularly received. The active observers are located as follows: New Brunswick, 1; Maine, 18; New Hampshire, 22; Vermont, 14; Massachusetts, 79; Rhode Island, 11; Connecticut, 20; New York, 8. This shows an increase in Maine and Massachusetts and a decrease in Connecticut compared with 1890. The greatest number of reports received in any month in season to be used in publishing the Bulletin was 151 in August, and least, 143 in October; the average number was 148. This is an exceptionally good showing for observers whose work is entirely voluntary.

SUMMARY OF THE WEATHER BY QUARTERS.

The following summary by quarters of the weather during the year is based on the reports received from the observers, newspaper reports, the Monthly Weather Review and the two daily weather maps issued by the U. S. Signal Service, and by its successor the Department of Agriculture, Weather Bureau.

THE FIRST QUARTER OF 1891.

January was unduly mild and wet. The temperature during the first half of the month was generally low but during the last half it was much higher, probably on account of the more southerly trend of the anticyclones. There were few extreme changes in the temperature. The snowfall was above the normal; 40 inches fell at Calais, Me., over 30 at Stratford, Vt., and over 20 in most parts of Maine, New Hampshire, Vermont and in western Massachusetts and northern Connecticut. From a trace to six inches of snow remained on the ground in the south and from 12 to 30 inches in the north, at the end of the month.

The total precipitation (rain and melted snow) was the heaviest ever noted in January at many places in New England. Over ten inches fell at Long Plain, Mass., and at Stevenson and Waterbury, Conn., and over nine inches at Calais, Me., New Bedford, Mass., Canton, Hartford, Lebanon, Middletown, Wallingford, Conn., and at Boyds Corners and Carmel, N. Y. Ten cyclones and nine anticyclones controlled the weather for the month, many of the former being well developed and causing distinct weather changes. One cyclone crossed to the north of New England, three passed easterly over the northern border; three moved northeasterly up our coast; two traversed New England from southwest to northeast and one was approaching New England at the end of the month. A barn was struck by lightning at Athol, Mass., on January 2, and a thunderstorm passed through the central districts on the night of January 11. On the next morning the pressure at many places in New England was the lowest ever registered. The lowest reading was 28.60 at Bar Harbor, Me. The prevailing wind was from the northwest; the maximum velocity, 78 miles from the northeast at Blue Hill on January 23. An earthquake was felt at Fitchburg and Groton, Mass., at 5.25–26 P. M., on January 15. Blue birds were seen at Taunton, Mass., on January 23 and 28. More than a trace of rain or snow fell in some part of New England on all but six days during the month.

February was mild and with a rainfall slightly above the average. A few stations in the north report a little less than the average temperature but throughout the south the mean was considerably above the normal. The precipitation was about one-fourth greater than the normal and was heaviest in southeastern Massachusetts. At Woods Holl, Mass., the rainfall was the greatest ever recorded for February. About 30 inches of snow fell in southern Vermont, above 20 inches over an area extending from western Maine to central New York and about 10 inches over the rest of New England. Over thirty inches remained on the ground at the end of the month in central New Hampshire and central and southern Vermont, and ten inches over the rest of New England except along the immediate coast. The weather was influenced by the passage of ten cyclones and eight anticyclones; in this number is included the last cyclone for January. Four of the cyclones passed to the north of New England, three of the four moving easterly from the Upper Lakes and one down the St. Lawrence valley; four moved easterly over northern New England, one formed over Carolina and passed up our coast and one passed from the Lower Lakes and vanished over the southern coast. A brilliant meteor was observed throughout New England at about 4 A.M. on the morning of February 23. The thunderstorm which occurred in southern New England on the evening of February

28 was unusually severe and was remarkable for the number of buildings struck and set on fire. The prevailing wind was from the northeast; the maximum velocity was 65 miles from the east at Blue Hill on February 22. There were eight days with not more than a trace of rain or snow. Navigation which had been suspended for about six weeks was resumed on the lower Connecticut on February 11. Willows had begun to blossom in the south at the end of the month, and blue birds and robins were occasionally seen.

March had a mean temperature very near the normal and a slightly excessive precipitation. The minimum temperature occurred on the second day of the month, ranging from 16° above zero in the south to 22° below in the north. The weather was controlled by the passage of ten cyclones and seven anticyclones. Two of the cyclones moved from the Lower Mississippi valley to the Lakes, one disappearing and the others moving into Canada, three moved eastward from the Mississippi valley and off the middle Atlantic coast, two came from the Rocky Mountains over the Lakes to the St. Lawrence Gulf, one came up the coast and moved north directly across our district, one was formed over southern New England by the junction of two separate storms, and one, very poorly defined, passed easterly across New England. It is noticeable that during the first half of the month the paths of the cyclones all trended to the north while during the last half they turned to the south. The snowfall was deficient but well distributed, measuring from 8 to 20 inches. From a trace to 12 inches of snow remained on the ground at the end of the month in the north, while in the south it was then practically all melted off, and some farm work had begun. Robins, sparrows and other birds had appeared in good numbers. The prevailing wind was from the northwest, and the maximum velocity 70 miles an hour at Block Island on March 21. Thunderstorms were noted on March 1, 9, 21, and 22. There were seven days with not more than a trace of rainfall.

The weather for the first quarter was mild and wet. The normal tables show that the mean temperature was 2°.3 above the average, the least departure being + 1°.6 in Maine and the greatest + 3°.0 in Massachusetts. The precipitation for the first quarter was 4.38 inches above the average. The excess was 3.37 in Maine and 6.05 in Connecticut.

THE SECOND QUARTER OF 1891.

April was warm and slightly deficient in rainfall. The average temperature varied from 0°.3 above the normal at Portland to 5° above at Lunenburgh, Vt. At

Newburyport and Boston, Mass., the mean was the highest ever recorded for April. The rainfall was least in the north. A drought prevailed at most sections at the end of the month. Six cyclones and seven anticyclones determined the weather. One of the cyclones came from the southwest and moved up our coast, one passed across New England from west to east, and two moved to the north down the St. Lawrence valley. The cyclone which moved up the coast was the only one of marked energy. The total snowfall was from 6 to 24 inches in the north, and from a trace to 16 inches in the south. The ground was mostly bare at the end of the month, and the season was from a week to ten days ahead of the average. The prevailing wind was from the northwest, the maximum velocity being 70 miles an hour at Block Island on April 3. Thunderstorms occurred on April 11, 14, 15, 18, 19, 22, and 23. The thunderstorm of April 18 was very severe in Central Massachusetts; at Orange five houses were struck by lightning, and one man was killed. Another death by lightning was reported at Norwich, Conn., during the thunderstorm of April 23. No rain or snow fell in appreciable quantities on twelve days during the month.

May was cool, dry and cloudy. The days were warm and the nights generally cool, with numerous severe frosts. The highest temperatures occurred on May 10 or 11, reaching over 90° at many places. The lowest temperatures were on May 6 or 19 and ranged from slightly above freezing to ten degrees below zero: thus the monthly range was very large and the daily ranges were strong. Killing frosts were felt on May 6, 19 and 27, doing considerable damage to fruit trees, garden and field crops. The loss to strawberry growers in Bristol county, Mass., reached several thousand dollars, although the crop was not destroyed, as at first reported. The general dryness retarded spring growth. There were six days with not more than a trace of rain or snow. From a trace to two inches of snow fell in all the mountain districts on May 17. Eight cyclonic and seven anticyclonic areas influenced the weather for the month. Many of the areas were poorly defined and their number might vary under a different method of classification. One of the cyclones came up the coast and faded over New England, two moved northeasterly up our coast, one moved easterly over New England in the shape of a long trough-like depression, and four from the Lakes passed north of New England. A marked sea-breeze reached some distance inland on May 23. An earthquake on May 1 was reported as one of relative severity for central New England. Its centre of greatest disturbance was in the southern Merrimack valley, its influence extending farther north and south than east and west. The first shock was followed by rapid vibrations lasting several seconds. Houses were so shaken as to cause their occupants to rush from them in terror. Although the season was well advanced at the first of the month, the prevailing cool and dry weather left it several days belated at the end. The prevailing direction of the wind was from the southwest the maximum velocity being 55 miles an hour at Brattleboro, Vt., on May 4.

June had a mean temperature and an average precipitation a little below the normal, but there were unusual extremes of heat and cold and of drought and moisture. Low temperatures and hard frosts occurred on June 5, about one month later than usual. A remarkable hot spell was experienced in the middle of the month; in many places the highest temperature for the summer season was experienced on June 16. The maxima were the highest ever reported for June at the following stations: Portland, Me., 94°, excess above the previous maxima, 4°; Boston, Mass., 96°, excess 3°; Northfield, Vt., 90°, excess 5°; Albany, N. Y., 96°, excess 6°; New York City, 94°, excess 3°. This hot spell was closed by a cool east wind, or "sea-turn," progressing from east to west; and thus unlike the cold waves of winter, which advance from west to east. A severe drought prevailed during the first half of the month, assuming serious aspects during the spell of extreme heat. Clouds and light rains characterized the last half of the month. Five cyclonic and four anticyclonic areas influenced the weather for June. Three of the cyclones passed from the Lakes to the St. Lawrence Gulf, one seemed to form off our southern coast and fade away again over southern New England, and one moved across New England from the Lakes and then hung persistently off our eastern coast for several days. None were strong or well defined. The prevailing wind was from the west, the maximum velocity being 46 miles an hour at Nantucket on June 28. The month closed with poor hay weather, but with the best prospects for all crops that was seen at any time during the month. The yield of fruit also promised to be good. There were nine days with not more than a trace of rainfall.

The second quarter was dry and with a nearly normal temperature in all sections. The average temperature shows an excess of only +0°.2. Massachusetts has the least deficiency in rainfall, 1.69, and Connecticut the greatest, 3.09, while for New England the deficiency is 1.98.

THE THIRD QUARTER OF 1891.

July was cool but with a normal precipitation. The month was one of the coolest Julys on record from the middle eastern Rocky Mountain slope to the Atlantic coast. Only on one or two days did the temperature reach 90° in any part of New England,

and on the coast and in the north but little over 80° was recorded. At New Bedford, Mass., the mean temperature was 3.9° below the average for 79 years and was the lowest since 1816; in that exceptional year the mean was 2° lower than in 1891. At New Haven the mean was 4°.1 below the normal for 105 years. At Thompson, Conn., in a 40 years' record, the only lower mean was in July, 1859. The mean temperature at Springfield, Mass., was the lowest in 29 years; at Concord, N. H., the lowest in 20 years; and at Belfast, Me., the lowest in 32 years, excepting 1884. Unusually low minima were recorded on July 10 and 28. Killing frosts on the latter date were experienced in Connecticut. There were many rainy and cloudy days, but the total precipitation was about of average value. Seven cyclones and the same number of anticyclones affected the weather during the month. Four of the cyclones passed easterly to the north of New England, two moved across our district from west to east and one passed to the east of New England, moving up the coast. The prevailing wind direction was from the southwest, the maximum velocity being 46 miles at Nantucket on July 9. The month ended with a belated season. There were only five days without more than a trace of rain in New England.

August was below the average in precipitation and above in temperature although there was no strongly marked departure from the normal in either respect. The maximum temperature was on August 11, except along the coast where a well marked sea breeze occurred; it was generally lower than the maxima recorded in June. The amount of precipitation varied in different localities but was generally light in the southern Merrimack valley and in eastern Massachusetts: a strong drought prevailed in those districts during the first half of the month. The weather was influenced by the passage of ten cyclones and six anticyclones. Six of the cyclones passed eastward north of New England; one passed eastward across the northern and one across the southern border; one moved from the Ohio valley and vanished to the north of New England, and one moved from the Lower Lakes and vanished over our southern coast. The prevailing wind was from the southwest, the maximum velocity being 51 miles at Blue Hill on August 12. The agricultural season was slightly behind the average at the end of the month. There were only three days without more than a trace of rain.

September was warm and dry. The mean temperature was 3°.6 above the average and at some stations this was the warmest September on record. The maximum temperature occurred generally on September 18 and was higher than is usually recorded in this month. Frosts occurred in the northern districts on September 9, doing slight damage. The rainfall was nearly one inch below the normal and was lightest in the central and western districts. A drought prevailed over most of New England during the last half of the month, damaging crops to some extent and causing very low water in wells and streams. Eight cyclones and the same number of anticyclones dominated the weather. Five of the cyclones passed to the north of New England; one moved up our eastern coast; one moved across our district from west to east, and one vanished over New England. The prevailing wind was from the southwest, the maximum velocity being 48 miles at Nantucket on September 7. Auroral displays were frequent and brilliant; one on September 9 was observed over all New England and was the most brilliant for some years. There were eight days with not more than a trace of rain in any of the States. The prevailing sunshine and high temperatures served to forward late crops and the harvesting was well under way at the end of the month.

The third quarter was dry and with a nearly normal temperature. The mean temperature was 0°.4 above the normal with a slight deficiency in the north. The precipitation was 1.38 inch below the average, the deficiency being slightly greater in Massachusetts than elsewhere.

THE FOURTH QUARTER OF 1891.

October was near the normal in both temperature and precipitation. The mean temperature was below the average in the southeastern and above in the northwestern areas. At New Bedford, Mass., the mean was 2°.3 below and at Amherst, Mass., 2°.7 above the normal. On October 4 many southern stations reported the highest temperatures ever recorded for October, the records varying from 80° to 90° over all New England. A minimum temperature of from 25° to 10° was registered on October 29, thus making the range for the month very large. The total precipitation was 0.24 inch above the average, being heavy along the coast and light in the interior. At Cotuit, Mass., the total for the month was 10.14 inches, or 5.42 inches above the normal, while at Lunenburgh, Vt., the fall was only 0.51 inch, or 3.02 inches below the normal. A general lack of water was felt in many sections through the greater part of the month. Snow fell to the depth of from one to three inches along the coast with the storm of October 23. In many places in the south no killing frost had occurred to injure the leaves and tender plants, and the unusual sight was presented of trees bending beneath a load of snow on their branches and leaves. Eleven cyclones and eight anticyclones influenced our weather in October. Three of the cyclones passed to the north, and one lay in the St. Lawrence valley at the end of the month; two moved over New England from west to east, one moved from the Lakes to the Middle Atlantic coast and then passed to the north across western New England; one moved from the Ohio valley south of New England and then up the coast, and three passed up our coast to the east; the last named originated as West India hurricanes. The prevailing wind was from the northwest, the maximum velocity being 72 miles at Block Island on October 13. There were eleven days without precipitation of appreciable amount. The killing frosts came later than usual and most late crops were secured in good condition. The high temperature and bright sunshine during September and the first part of October caused many small fruits to blossom and bear a second crop and brought early wild flowers into bloom in several places.

November was dry but with a normal temperature. The thermometer records were slightly above the normal in the north, and below in the south. The lowest temperatures for the month and season occurred on the morning of November 30, the minima being from 10° to 5° in the south and from zero to 14° below zero in the north. The total precipitation was above that of November, 1890, but was about 1.35 below the normal. It was generally heaviest in the interior and lightest on the coast. The drought which prevailed through much of October continued in many places throughout November. In New Hampshire, wells and streams were low, and many mills and factories were compelled to suspend operations for want of water. From three to five inches of snow fell in the extreme north and from a trace to one inch in the central districts. A snow sheet of from one to three inches remained on the ground in the north at the end of the month. Seven cyclones and six anticyclones were charted during the month. These areas of low and high pressure were nearly all well defined and exerted a strong control on the winds, temperature and weather. Three of the cyclones passed to the north, two moved across New England from west to east, one came up the coast and across our eastern border, and one faded away to the south of New England. The prevailing wind was from the northwest, the maximum velocity being 78 miles at Brattleboro, on November 17. There were nine days with not more than a trace of precipitation. The generally cloudless sky of November 15 was favorable for observing the total eclipse of the moon, which occurred between 6 and 8 P.M.

December was unusually mild but with nearly normal precipitation. The mean temperature was from 6° to 10° above the normal and from 1° to 2° above the highest means formerly reported for December in 1881 and 1889. The maximum temperatures, from 50° to 64°, were variously reported on December 4, 10, and 23; in all cases during southerly winds. At Manchester, N. H., dandelions blossomed on December 6, 13 and 25; hepatica on December 6, and trailing arbutus on December 13; willows budded all through the month. The Connecticut River was frozen over for the first time for the season at Middletown on December 18. The precipitation was slightly above the average, and nearly all of it occurred during the last half of the month. It was heavy during the last nine days and served to break the drought which had prevailed in many sections for several months. Wells and steams were filled and mills were able once more to resume full duty. In parts of southern New England no snow fell during the month, and in all districts it was light and afforded no protection to grass or rain. Nine cyclones and eight anticlones determined the weather changes for the month. Five of the cyclones passed to the north, three crossed New England from west to east, and only one moved to the south of us. On the other hand, six of the anticyclones passed to the south of us, and only two of the eight gave us persistent northwest winds as they approached. The frequent occurrence of south and southwest winds, characteristic of a month in which the tracks of pressure centres are thus disposed, explains the abnormally high temperatures and the light fall of snow. The prevailing wind was from the northwest and the maximum velocity of 70 miles was recorded at Blue Hill on December 30. There were fifteen days without more than a trace of rainfall in New England.

The fourth quarter was very mild and with a slightly deficient rainfall. The mean temperature was 2°.6 above the normal; this excess being slightly greater than that of the first quarter. The most of this excess is due to the unusual warmth of December. In Maine the mean was 2°.8 above the normal and in Connecticut 1°.7 above. The precipitation was deficient 0.82, the deficiency averaging 2.65 in Maine, and only 0.10 in Connecticut.

THE YEAR 1891.

The following table indicates in brief form the characteristics of the several months of 1891, as compared with the normals for the months in other years. From this it may be seen that the year 1891 was considerably warmer than the average, with a nearly normal rainfall. The mean annual temperature for New England was 1°.4 above the average. March, June, August, October and November departed very little from the normal; January, February, April, September and December were unseasonably warm, the last month unusually so; while May and July showed a marked depression of temperature.

MONTH.	TEMPERATURE.	PRECIPITATION.
January	Very mild.	Excessive; much snow.
February	Very mild.	Slightly excessive; much snow.
March	Normal.	Slightly excessive; light snow.
April	Warm.	Slightly deficient.
May	Cold.	Deficient; drought; late snow.
June	Cool.	Slightly deficient; drought.
July	Unusually cool.	Normal.
August	Warm.	Slightly deficient.
September	Very warm.	Deficient.
October	Cool.	Slightly in excess; early snow.
November	Normal.	Deficient; light snow; drought.
December	Unusually mild.	Slightly excessive; little snow.
Year	Above normal.	Slightly above normal.

January showed a marked excess in precipitation and May and November a strong deficiency, while the other months departed very little from the average. The mean total for the year was 0.20 inch above the normal. Rain or snow fell to the amount of 0.01 inch in some parts of New England on 267 days during the year.

The following tables give the departures from the normal for every month of the years 1885 to 1891, these covering the period during which our Society has gathered records for New England. In temperature departures, 1891 was similar to 1889 and 1890; but in departures of precipitation its nearest analogue was 1886.

DEPARTURE OF MONTHLY TEMPERATURES FROM NORMAL.

MONTH.	YEAR.						
	1885.	1886.	1887.	1888.	1889.	1890.	1891.
January	—0.3	+0.1	—1.5	—6.9	+8.2	+5.6	+3.8
February	—0.8	—1.8	—0.1	—0.1	—3.5	+5.3	+3 3
March	—7.4	—0.4	—2.6	—2.5	+4.5	+0.2	+0.4
April	+1.3	+4.2	—2.1	—2.8	+3.5	+0.8	+2.5
May	—0.7	+0.2	+3.8	—2.5	+3.0	—0.1	—1.2
June	—0.3	—2.2	—0.5	+0.5	+1.0	—1.7	—0.7
July	0.0	—1.1	+2.8	—3.3	—1.8	—1.1	—3.1
August	—2.5	—1.3	—2.2	—0.7	—1.8	—0.9	+0.6
September	—2.7	—0.2	—3.0	—2.6	+1.0	+0.2	+3.6
October	—0.4	+0.2	—1.5	—4.7	—3.0	—1.1	—0.7
November	+2.5	+1.7	0.0	+1.8	+4.2	0.0	+0.3
December	+2.0	—2.7	+1.6	+3.8	+6.3	—6.1	+8.3
Year	—1.3	—0.4	—0.5	—1.8	+1.7	+0.1	+1.4

DEPARTURE OF MONTHLY PRECIPITATION FROM NORMAL.

MONTH.	YEAR.						
	1885.	1886.	1887.	1888.	1889.	1890.	1891.
January	+1.16	+2.02	+1.81	+0.78	+0.96	—1.17	+2.90
February	+0.07	+2.37	+1.76	+0.20	—1.51	—0.27	+0.92
March	—2.21	—0.52	+0.41	+1.77	—1.48	+2.54	+0.56
April	—0.53	—1.03	+0.26	—0.72	—0.22	—0.69	—0.39
May	—0.70	—0.05	—2.00	+0.95	+3.35	+2.01	—1.40
June	—0.19	—1.39	+0.87	—0.75	+0.32	—0.33	—0.19
July	—0.86	—0.69	+1.75	—1.55	+3.92	—0.71	—0.03
August	+2.06	—0.89	+0.70	+1.19	—0.59	+0.14	—0.45
September	—1.62	+0.03	—1.68	+4.78	+0.77	+1.80	—0.90
October	+1.16	—0.73	—1.10	+1.71	+0.49	+3.20	+0.19
November	+0.96	+0.82	—0.95	+2.23	+2.00	—2.60	—1.32
December	—0.16	+1.05	+0.90	+1.04	—0.47	+0.67	+0.31
Year	—1.20	+0.93	+2.69	+11.76	+4.25	+4.59	+0.20

THE CYCLONES OF 1891 IN NEW ENGLAND.

The number of cyclones or cyclonic storms, exhibited on the weather maps of the Signal Service and of the Weather Bureau, and defined as in former reports, approaching near enough to New England to exert a distinct control on our weather, was 100. This was eight less than in 1890 and more than 1888 or 1889. The number given for the whole United States by the Weather Bureau, for those years is, 1888, 113; 1889, 123; 1890, 132; 1891, 126. The year 1891 is therefore no exception to the rule that nearly all cyclones observed within our national domain pass near New England; about 80 per cent. of all that occur in the United States pass to the Atlantic and most of these move across or near New England, the most frequent path being down the St. Lawrence Valley. The classification in the table below is the same as was used in 1890. The greater number of the cyclones which passed to the north of New England came from the northwest across the Lakes, but a few came from the southwest, up the Ohio valley and then down the St. Lawrence. A few moved eastward over northern Canada, yet near enough to New England to influence our weather; some of these seemed to move southeasterly across northeastern Maine. The cyclones crossing New England from west to east and those passing us to the south generally had the same source as those passing to the north, but they turned a little farther to the south on reaching the Ohio valley or Lower Lakes. Those passing to the east of New England either came from the southwestern States and passed off the southern Atlantic coast to a northeasterly course, or originated as West Indian hurricanes. Several cases have been found when two storms united over New England, but strictly speaking no cyclones have formed within our territory, and but few secondaries have been developed there.

In the following lists, the cyclones are classified in reference to their relation to New England. The first table gives the total number of cyclones and the courses followed in each month; also the total for similar courses in the past three years, as stated in previous reports. A larger number than usual passed across and to the east of New England, and a larger number faded away over or near our district. Special data are given for each cyclone of the several classes; the tables showing the date on which the cyclonic center passed over or was nearest to New England, and the lowest pressure at its centre or at our station nearest to its centre during its passage, as given on the daily weather maps of the Signal Service and Weather Bureau, and the change of central pressure during its passage. An increase of pressure is indicated by the letter "i", and a decrease by the letter "d"; while the omission of these letters indicates that the pressure was not materially changing or else that the centre of the cyclone was so remote from the stations of observation that the variation in central pressure could not be ascertained. A decrease of central pressure, indicating an increase of cyclonic intensity, is more common than the reverse.

CLASSIFICATION OF CYCLONES.

MONTH.	Total Number.	Number passing North of New England.	Number crossing New England from the West.	Number crossing New England from the South.	Number passing East of New England.	Number passing South of New England.	Number originating over or near New England.	Number dissolving before reaching New England.
January	10	1	3	2	3	. .	. .	. .
February	9	4	4	. .	1	. .	. .	1
March	10	3	1	1	1	3	. .	1
April	6	2	3	. .	1	. .	. .	. .
May	8	4	1	. .	2	. .	. .	1
June	5	3	1	. .	. .	. .	. .	1
July	7	4	2	. .	1	. .	. .	. .
August	10	6	2	. .	. .	. .	. .	2
September . . .	8	5	1	. .	1	. .	. .	1
October	11	4	2	1	3	1	. .	. .
November . . .	7	3	2	. .	1	. .	. .	1
December	9	5	3	. .	. .	1	. .	. .
Total 1891 . . .	100	44	25	4	14	5	0	8
Total 1890 . . .	108	59	24	3	9	5	.5	3
Total 1889 . . .	87	43	12	12	7	8	1	4
Total 1888 . . .	88	34	23	8	8	4	6	5

A. CYCLONES PASSING NORTH OF NEW ENGLAND.

January 27 . .	30.0	June 11 . .	29.7 *d*	September 18 . .	29.5 *d*
February 16 . .	29.4	" 16 . .	29.5	" 29 . .	29.6 *d*
" 18 . .	29.3	July 4–6 . .	29.6	October 3 . .	29.6 *d*
" 21 . .	29.4 *d*	" 15 . .	29.7	" 9 . .	29.8 *i*
" 25 . .	29.1 *i*	" 19 . .	29.7 *i*	" 15 . .	29.8
March 14 . .	29.0 *i*	" 24 . .	29.8 *d*	" 31 . .	29.6
" 16 . .	29.6 *d*	August 2 . .	29.5	November 12 . .	29.8 *i*
" 24 . .	30.0 *i*	" 7 . .	29.8	" 17 . .	29.4 *d*
April 12 . .	29.8	" 10 . .	29.8 *i*	" 24 . .	29.1 *i*
" 18 . .	29.7 *d*	" 12 . .	29.7	December 5 . .	29.3
May 1 . .	29.7	" 18 . .	29.8 *i*	" 10 . .	29.7
" 10 . .	29.6 *i*	" 21 . .	29.5 *i*	" 13 . .	29.5 *d*
" 21 . .	29.7 *d*	September 4 . .	29.8 *i*	" 22 . .	29.4 *i*
" 25 . .	29.8 *i*	" 6 . .	29.9	" 26 . .	29.1 *d*
June 1 . .	29.6 *i*	" 13 . .	29.6 *d*		

B. CYCLONES CROSSING NEW ENGLAND FROM THE WEST.

January 2 . .	29.0 *i*	April 23 . .	29.4 *d*	September 21 . .	30.0
" 14 . .	29.8	" 28 . .	29.5	October 4 . .	29.6 *i*
" 30 . .	29.4 *d*	May 3 . .	29.8 *d*	" 26 . .	29.6 *d*
February 1 . .	29.6 *d*	June 23 . .	29.7 *d*	November 26 . .	29.3 *d*
" 3 . .	29.1 *d*	July 7–8 . .	29.5 *d*	" 28 . .	29.6
" 9 . .	29.4 *d*	" 30 . .	29.7 *d*	December 7 . .	29.4 *d*
" 28 . .	30.0	August 15 . .	29.9 *i*	" 16 . .	28.9 *d*
March 18 . .	29.8 *i*	" 28 . .	29.6 *i*	" 30 . .	29.2 *d*
April 15 . .	29.9				

C. CYCLONES CROSSING NEW ENGLAND FROM THE SOUTH.

January 12 . .	29.6 *d*	March 10 . .	29.8 *d*	October 20 . .	29.7 *d*
" 22 . .	29.2 *d*				

D. CYCLONES PASSING EAST OF NEW ENGLAND.

January 5 . .	29.5 *d*	April 3 . .	29.3 *d*	October 5 . .	29.4 *d*
" 18 . .	29.8 *i*	May 12 . .	29.8 *d*	" 8 . .	29.6 *d*
" 25 . .	29.5 *d*	" 17 . .	29.6 *d*	" 13 . .	29.6 *d*
February 26 . .	29.1 *d*	July 9 . .	29.9 *i*	November 27 . .	29.3 *d*
March 4 . .	29.6 *d*	September 7 . .	29.6 *d*		

E. CYCLONES PASSING SOUTH OF NEW ENGLAND.

March 21 . .	29.7	March 28 . .	29 6 *i*	December 24 . .	29.9 *i*
" 22 . .	29.4	October 23 . .	29.0 *d*		

The most noticeable cyclones during 1891, selected with special reference to their violence in New England, occurred on the following dates:—

January 11–12: The third cyclone of the month and year came from the Gulf of Mexico and Texas on January 10, moving up the Mississippi and Ohio valleys and reaching the Eastern Lakes on the evening of January 11. It then moved rapidly and with increasing energy northeastward, passing centrally across New England with heavy rain and snow and severe gales. The pressure was the lowest ever known at many of our stations.

January 17–18: This storm left the Gulf of Mexico on January 16, reached our southern coast a day later and moved up our coast on the following day with snow changing to rain, causing one of the most beautiful yet destructive ice storms on record. Much damage was done to trees and to telegraph and telephone wires.

January 25: This storm also originated in Texas, and moved to southern New England and up our eastern coast with northerly winds and heavy damp snow. The snow did not injure trees so much as the preceding ice storm, but caused more damage to the wires, delaying all telegraphic work.

February 8: This cyclone came from the vicinity of Texas and vanished off our southern coast on February 8 with heavy snows and high northerly winds.

February 28: This cyclone ran rapidly from the southwest to the Lower Lakes and then over northern New England with rain and snow. It was chiefly noted for the exceptionally severe thunderstorm that was generated within its area in southern New England on February 28; many buildings were struck by lightning and burned. One observer reports that some half dozen fires could be seen at once.

March 4: One storm from the southwest and one from off the Florida coast combined over southern New England and passed up our seaboard, yielding one of the heaviest snows of the season along the coast. The fall at Boston was nearly 14 inches. Street travel was much delayed in the cities.

March 13–14: The fourth cyclone of the month formed over Virginia in a region of weak gradients, apparently developing by the union of three separate low pressure centers. It moved quickly to the Lakes and down the St. Lawrence valley on March 13 with low pressure and heavy winds and rain. The wind was exceptionally strong over Long Island sound; it was during this storm that the U. S. Steamer "Galena" and the tug "Nina" went ashore on Martha's Vineyard.

April 3: This storm reached the Virginia coast from New Mexico on April 2. It passed up our eastern coast on the following day as one of the most severe storms of the season. Except on the extreme southern coast, the precipitation was in the form of snow and reached a depth of a foot or a foot and a half. The high wind delayed the New York and Stonington boats on Long Island Sound several hours. At Boston the wind blew with great force from 2 to 7 A.M. of April 3, with a maximum hourly run of 60 miles and with gusts of much greater force. From 8 P.M., April 2, to 8 A.M. of the next morning, the barometer fell over an inch. At Manchester, N. H., the storm was attended with high winds and was the most severe since March, 1888; fruit and shade trees were badly injured. At Portland, Me., high gales with moist snow prevailed and many electric wires were broken down.

May 17: A cyclone was formed off our southern coast by the union of one storm from off Florida and another from over the Lakes. It passed up our coast on May 16–17, giving rain and thunderstorms on the former and rain with snow on the latter date.

June 26: The fifth cyclonic area for the month formed over the Lakes and moved over New England on June 22–23, giving heavy rains and thunderstorms. It hung off our coast until on the approach of an anticyclone from Mississippi valley, when it seemed to gather new energy and caused cloudy threatening weather and severe thunderstorms on June 26. One thunderstorm appeared in western Massachusetts and showed much energy while crossing the Connecticut valley. Heavy hailstorms occurred there and much damage was done by lightning. At Chicopee, Mass., hail stones were found one inch in diameter; at Fiskdale, Mass., 1.12 inch of rain fell in twenty-five minutes. It is reported that at East Haddam, Conn., lightning struck a team of eight oxen, killing five of them.

July 15: A cyclone moved from the middle plateau region to the Lakes and then down the St. Lawrence valley, givin gsevere thunderstorms in New England. Heavy rain and hail damaged crops in the Connecticut valley, and in Maine and New Hampshire and several buildings were set on fire by lightning.

July 25–27: A cyclone passed from the Upper Lakes to the St. Lawrence Gulf on July 24 and 25, giving thunderstorms with heavy wind, rain and hail in southern New England on July 25 and in Maine on July 27. Much damage was done to field crops and fruit.

August 7: A cyclone moved from the Upper Lakes to the St. Lawrence Gulf, generating thunderstorms accompanied by high winds and hail in New England. One local storm moved southeastward over Manchester, N. H., in the afternoon; much glass was broken and hail stones were picked up after the storm measuring 1 1-4 inch in diameter.

August 12: A cyclone passed across from the Lakes to the Gulf of St. Lawrence, generating thunderstorms in southern New England, and causing much damage by wind and lightning. On Long Island Sound an excursion barge was unroofed; thirteen persons were killed and many more injured.

August 27: A cyclone formed over the eastern Lakes and passed eastward across northern New England, causing heavy rains and destructive local storms.

September 7: An evident secondary cyclonic center formed off our southern coast, moving northward to join the primary storm, which had passed down the St. Lawrence valley, over eastern Maine. This produced high northeasterly winds and heavy rains along our coast. The rainfall at Cotuit, Mass., on September 7th was 2.43 inches and at Blue Hill, Mass., 2.95 inches. At Hartford, Conn., 3.93 inches fell on September 5, 6 and 7; and at Newington in the same state, the fall was 4.56 inches.

September 18: A cyclone passed from the Upper Lakes to the St. Lawrence Gulf on September 17 and disappeared over the Gulf of St. Lawrence on the following day; it was attended by violent thunderstorms from the Lake region over northern New England. An unusually severe thunder, hail and rain storm visited parts of Maine at night and at a number of places buildings were struck by lightning and burned. At Groveton, N. H., a large black cloud approached from the northwest about 4 P.M., attended by high wind and heavy rain; several buildings were moved from their foundations, the damage being estimated at $1,000. A destructive storm was reported at Lancaster, N. H. A severe thunderstorm passed over Hartland, Vt., in the evening, and at Northfield, Vt., a barn was burned by lightning. The late Dr. Hiram A. Cutting, observer at Lunenburgh, Vt., for many years, sends a special report relative to this storm, from which the following account is abstracted: "There was a heavy shower in the northwest and another in the southwest at about 4 P.M. The lightning was almost incessant. The clouds assumed a brassy hue where the edges of the showers seemed to come together. I did not think it would rain here but I feared wind and went to my house and closed all doors and windows and then stepped out to watch the storm. The severe wind struck the ground about one mile northwest of our village. For half a mile west, the trees were blown in a westerly direction; for about half a mile southwest and north, the trees were blown down [outward] from the storm; but the storm moved about due east. On either margin of the path, trees were blown north and south; north on the north edge and south on the south edge, but near the margin only now and then was one blown down, this being more frequent on the south edge than on the north. All the trees that were blown down on the path of the storm were turned toward the east. The storm of wind and hail was about six miles wide at its full width, but no more than a mile at the beginning; it moved eastward about twenty miles to the mountains. The wind did most damage on the northerly half from the centre. It blew down many trees and unroofed some buildings. The following instances of destruction may be noted: In a sugar orchard of 650 trees, about 500 were blown down; in a pine grove of about 6000 trees, all but 30 were blown down; the trees in apple orchards were overturned, the apples being scattered everywhere. In this space of six miles by twenty miles, the wind would sometimes strike into the forest and blow down a line of trees here and there, while it would spare other tracts, destroying but few trees; yet all forest land on the storm path was much damaged. Crops were mostly gathered, and consequently the damage other than to farm buildings and timber was light. No one was killed, but several persons who were driving were blown over and injured and the carriages were broken. There was no great depth of rain — about one half inch."

October 7–8: This storm apparently developed on the Middle Atlantic coast and then moved northeastward up our coast. Its greatest violence was felt in the vicinity of Nahant, Mass., where the wind blew with hurricane force from 6.30 to 7.30 A.M., and some damage was done to shipping. At Boston the barometer fell nearly one half inch from 8 P.M. of October 7 to 8 A.M. of the next morning.

October 13: This storm came from the south and moved up our coast. It gave severe gales and heavy rains. The shipping had been well warned of its coming, and few vessels went ashore on the New England coast. At Cotuit, Mass., 3.89 inches of rain fell from noon of October 13 to 11 A.M. of next day, while there was no rain in western Massachusetts and Vermont.

October 23: This storm apparently developed in the Ohio valley, passed to the Virginia coast and then northeastward to the Gulf of St. Lawrence. It gave high winds with heavy rain and snow on our coast.

November 17: The fourth cyclone for the month reached the Lakes from the southwest and then moved with considerable energy to the north of New England on November 17. On the southern coast, high winds prevailed and some damage was done to sea-side property. At Boston the wind prostrated some trees, and many signs were blown down; two persons were reported injured. At Blue Hill the wind reached a velocity of 59 miles an hour. At Brattleboro, Vt., a velocity of 78 miles an hour was reported. At Monroe, Mass., a small tornado prostrated a heavy growth of timber over a belt about eight rods wide and forty rods long. Some of the trees were torn up by the roots and some large trees were broken off, leaving the stumps standing.

December 4: This storm came from Iowa and passed to the north of New England on December 5, giving destructive gales in New York and on our southern coast.

December 30: This storm advanced from Winnipeg to the Lower Lakes and crossed centrally over Massachusetts, causing general rains and high winds. At Boston the barometer fell just one inch during the 12 hours ending at 8 A. M. on December 30.

TABLES.

The tables of this report are arranged in the same order as those presented in former reports where they have already been explained in detail.

Table XIV contains geographical data for all the stations reporting during 1891. An asterisk in the column of elevation indicates that the value there given is only approximate. The observers themselves are in most cases the authority for these data. The distribution of the stations is illustrated in Plate VI, where the numbers correspoud to those in the first column of this table.

Table XV is the annual summary for 1891 for such stations as have reported continuously through the year. The daily means, from which the monthly and annual means are computed, are reduced from the arithmetical means of the actual observations by applying corrections proper to the hours of observation according to the data of Volume XXI of the Smithsonian Contributions. In determining the number of rainy days, those were counted in which 0.01 inch or more of precipitation was recorded.

Tables XVI, XVII, and XVIII contain barometric records reduced to sea-level, with the addition of the monthly relative humidity in Table XVI. The values of the highest and lowest readings at Nashua, Blue Hill, Providence and New York (*a*) are taken from self-recording barographs. (See page 189.)

Tables XIX and XX exhibit the departures of the mean monthly temperature and total monthly precipitation of 1891, for those stations having a record of ten years or more. The general departure of temperature and precipitation from the normal in New England for the several months and the year has been considered on page 172.

Table XXI contains the maximum velocity of the wind in miles per hour and the total movement of the wind of each month for all the stations where anemometers are used. The maximum wind velocity is not determined by the same method at all the stations. At Providence the greatest number of miles for the hour preceding the hour of regular observation is taken as the maximum; at St. John, Brattleboro and

Blue Hill, the greatest movement in any hour since the preceding observation is taken as the maximum; at Amherst and Leicester the greatest pressure of the wind at any time is recorded as the maximum velocity, while at the remaining stations the greatest number of miles for any five minutes is taken as the maximum. The latter is the method in use by the Weather Bureau.

Tables XXII and XXIII, occupying pages 200 to 235 and 236 to 259 respectively, are reprinted from the Bulletins that have been issued monthly as usual during the year 1891; but the corrections received after the publication of the Bulletins up to the 25th of the month of issue are here inserted. Table XXII contains monthly summaries of meteorological data. Table XV is constructed chiefly from these data. Table XXIII presents the daily precipitation for a number of stations selected geographically, by means of which the distribution of our precipitation as dependent on the passage of cyclonic storms may be clearly perceived.

Plate VI gives the distribution of stations, with numbers corresponding to the first column of Table XIV, and also the mean annual isotherms. The latter are drawn from the values of Table XV, without reduction to sea-level. They are necessarily only approximate, and their curvature is determined in many points by a knowledge of the topography, when the records are wanting.

TABLE XIV.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	County and State.	Lat. N.	Long. W.	Elevation.	OBSERVER.
1	St. John	St. John, N. B.	45° 17′	66° 31′	140	Gilbert Murdoch, C. E.
2	Bar Harbor	Hancock, Me.	44 23	68 13	50	Joseph Wood.
3	Belfast	Waldo	44 25	69 00	178	L. H. Murch.
20	Bethel	Oxford	44 25	70 45	. .	C. C. Lovejoy.
14	Calais	Washington.	45 11	67 15	120	Dr. D. E. Seymour.
19	East Machias	"	44 40	67 27	100	F. W. Kingsley.
4	Eastport	"	44 55	66 54	53	U. S. Weather Bureau.
5	Fairfield	Somerset	44 35	69 35	90	H. M. Mansfield.
18	Farmington	Franklin	44 42	70 06	600	J. M. S. Hunter.
7	Kent's Hill	Kennebec	44 05	70 05	500*	Prof. S. N. Taylor.
8	Lewiston	Androscoggin	44 06	70 10	185*	Union Water Power Co.
9	Mayfield	Somerset	45 08	69 45	1000*	V. P. Hall.
10	Orono	Penobscot	44 54	68 40	129	Prof. C. M. Fernald.
11	Petit Menan	Washington	44 22	67 52	16*	George L. Upton.
12	Portland	Cumberland	43 40	70 16	99	U. S. Weather Bureau.
15	West Jonesport	Washington	44 32	67 38	22	C. Hopkins.
32	Belmont	Belknap, N. H.	43 30	71 35	. .	Winnepissiogee Lake Co.
33	Berlin Falls	Coos	44 26	71 15	1040*	Owen F. Cole.
34	Berlin Mills	"	44 27	71 14	1100*	Q. A. Bridges.
37	Concord	Merrimack	43 13	71 30	283*	Hon. W. L. Foster.
60	Grafton	Grafton	43 35	72 01	850	E. G. Smith.
39	Hanover (*a*)	"	43 42	72 17	603	Dartmouth College Observat'y.
58	" (*b*)	"	43 42	72 17	502	N. H. Agr. Exp't Station.
59	Littleton	"	44 19	71 46	1032	Charles Nurse.
40	Lake Village	Belknap	43 35	71 34	. .	Winnepissiogee Lake Co.
42	Manchester (*b*)	Hillsboro	42 59	71 28	225	William Little.
43	" (*c*)	"	42 59	71 28	247	U. S. Weather Bureau.
44	Mine Falls	"	42 49	71 31	. .	Nashua Manufacturing Co.
45	Nashua	"	42 46	71 29	125	Jackson Co.
57	Newton	Rockingham	42 50	71 08	. .	W. C. Gale.
47	North Conway	Carroll	44 02	71 10	575	J. L. Binford.
48	Pennichuck Stn.	Hillsboro	42 48	71 30	. .	Pennichuck Water Works.
49	Plymouth	Grafton	43 47	71 47	500	Miss Helen M. Clark.
51	Stratford	Coos	44 40	71 35	870*	N. B. Waters.
52	Walpole	Cheshire	43 04	72 21	1128	E. A. Knowlton.
53	Weir's Bridge	Belknap	43 36	71 34	. .	Winnepissiogee Lake Co.
54	West Milan	Coos	44 34	71 20	1016	A. A. Higgins.
55	Wolfboro	Carroll	43 35	71 15	. .	Winnepissiogee Lake Co.
71	Brattleboro' (*a*)	Windham, Vt.	42 51	72 33	335	W. H. Childs.
72	" (*b*)	"	42 51	72 33	160*	H. B. Chamberlain.
73	Burlington	Chittenden	44 29	73 15	220*	W. B. Gates.
74	Chelsea	Orange	44 00	72 32	1300*	H. L. Bixby.
75	Cornwall	Addison.	43 57	73 12	. .	C. H. Lane.
90	Enosburg Falls	Franklin	44 56	72 40	. .	J. H. Mears.
88	Hartland	Windsor	43 30	72 21	665	E. A. English.
77	Jacksonville	Addison	42 48	72 50	1250*	J. W. Hatch.
78	Lunenburgh	Essex	44 27	71 41	1210	H. A. Cutting, Ph. D.
82	Northfield	Washington	44 10	72 44	871	U. S. Weather Bureau.
87	Saxton's River	Windham	43 09	72 35	. .	Vermont Academy.
83	Strafford	Orange	43 52	72 24	500	H. F. J. Scribner.
85	Vernon	Windham	42 47	72 32	310	A. Whithed.
89	Weathersfi'd Ctr.	Windsor	43 25	72 31	1800	B. H. Allbee.
192	Adams	Berkshire, Mass.	42 43	73 12	. .	F. W. Green.
187	Ashland	Middlesex	42 15	71 28	214	Boston Water Works.
101	Amherst (*a*)	Hampshire	42 22	72 31	267	Miss S. C. Snell.
102	" (*b*)	"	42 20	72 30	250	Mass. Agr. Exp't Station.
177	" (*c*)	"	42 23	72 31	260	Hatch Experiment Station.
180	Andover	Essex	42 39	71 06	300	A. B. Wiggin.
104	Blue Hill (sum't)	Norfolk	42 13	71 07	640	Blue Hill Observatory.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	County and State.	Lat. N.		Long. W.		Elevation.	OBSERVER.
105	Blue Hill (base).	Norfolk, Mass.	42°	13′	71°	07′	200	Blue Hill Observatory.
174	" " (valley)	"	42	14	71	07	50	" " "
106	Boston (*a*) . . .	Suffolk	42	21	71	04	124	U. S. Weather Bureau.
107	" (*b*) . . .	"	42	20	71	05	7	Boston Water Works.
108	Cambridge (*a*) .	Middlesex . . .	42	23	71	08	74	Harvard College Observatory.
109	" (*b*) .	"	42	23	71	06	8	E. C. Brooks, C. E.
110	Chestnut Hill . .	"	42	20	71	12	124	Boston Water Works.
111	Chicopee	Hampden	42	12	72	35	86	F. H. Norton.
112	Clinton	Worcester . . .	42	25	71	41	297	Geo. W. Weeks.
182	Concord	Middlesex . . .	42	27	71	22	139	Fred A. Tower.
114	Cotuit.	Barnstable . . .	41	37	70	26	60*	Gen. J. H. Reed.
116	Deerfield	Franklin	42	30	72	37	175*	James Childs.
117	Dudley	Worcester . . .	42	02	71	58	750	Nichols Academy.
193	Egg Rock, Nahant	Essex	42	26	70	54	72	G. L. Lyon.
119	Fiskdale	Worcester . . .	42	05	72	09	1150*	O. B. Truesdell.
120	Fitchburg (*a*) . .	"	42	36	71	50	700*	Dr. J. Fisher.
121	" (*b*) . .	"	42	35	71	47	550*	Dr. A. P. Mason.
186	Florida (*a*) . . .	Berkshire	42	40	73	02	1328	Nelson Dupuy.
188	" (*b*) . . .	"	42	42	73	02	2160	J. E. Baker.
122	Framingham . .	Middlesex . . .	42	17	71	27	160	Boston Water Works.
123	Gilbertville . . .	Worcester . . .	42	17	72	13	560	Dr. W. E. Brown.
124	Groton (*a*) . . .	Middlesex . . .	42	36	71	34	333	Chas. Woolley.
125	" (*b*) . . .	"	42	36	71	34	. .	Groton School.
189	Hoosac Tunnel .	Berkshire	42	41	73	00	760	A. J. Newman.
178	Kendal Green . .	Middlesex . . .	42	22	71	20	135	Cambridge Water Works.
127	Lake Cochituate	"	42	17	71	25	140	Boston Water Works.
128	Lawrence	Essex	42	42	71	13	51*	Essex Company.
129	Leicester	Worcester . . .	42	15	71	55	1058*	Leicester Academy.
130	Leominster . . .	"	42	30	71	49	500*	W. B. Hosmer.
131	Long Plain . . .	Bristol	41	44	70	55	55	New Bedford Water Works.
133	Lowell (*b*) . . .	Middlesex . . .	42	39	71	20	100*	Prop's Locks and Canals.
136	" (*c*) . . .	"	42	39	71	20	97	" " " "
176	" (*d*) . . .	"	42	39	71	20	84	F. E. Saunders.
134	Ludlow	Hampden	42	12	72	29	381	M. W. Graves.
135	Lynn	Essex	42	28	70	56	40	John C. Haskell.
183	Mansfield	Bristol	42	01	71	15	168	W. C. Winter.
138	Medford	Middlesex . . .	42	25	71	07	7	R. M. Gow.
139	Middleboro' . . .	Plymouth	41	53	70	55	. .	Middleboro' Water Works.
140	Milton	Norfolk	42	15	71	06	100	Rev. A. K. Teele.
194	Monroe	Berkshire	42	43	72	59	1860	Wm. H. Allen.
141	Monson	Hampden	42	05	72	20	420	Dr. G. E. Fuller.
142	Mt. Nonotuck . .	Hampshire . . .	42	15	72	40	880	Wm. Street.
143	Mystic Lake . .	Middlesex . . .	42	26	71	09	12	Boston Water Works.
144	" Pump. Sta.	"	42	25	71	08	10	" " "
173	Nahant	Essex	42	26	70	54	90	Dr. W. D. Hodges.
146	Nantucket . . .	Nantucket . . .	41	14	70	07	14	U. S. Weather Bureau.
147	New Bedford (*a*)	Bristol	41	39	70	56	88	T. R. Rodman.
148	" " (*b*)	"	41	39	70	56	48	New Bedford Water Works.
149	Newburyport (*a*)	Essex	42	49	70	51	73	F. V. Pike.
150	" (*b*)	"	42	49	70	51	12*	Newburyport Water Co.
152	Northampton . .	Hampshire . . .	42	19	72	38	125	J. M. Clark.
153	Plymouth	Plymouth	41	57	70	40	40*	Miss L. B. Knapp.
154	Princeton	Worcester . . .	42	25	71	55	1125	Mrs. E. M. West.
155	Provincetown . .	Barnstable . . .	42	03	70	11	15	John R. Smith.
156	Randolph	Norfolk	42	10	71	03	170	Mrs. I. D. Page.
179	Robert's Dam . .	Middlesex . . .	42	21	71	20	90	Cambridge Water Works.
159	Salem	Essex	42	31	70	54	46	A. A. Smith.
190	Savoy	Berkshire	42	41	73	02	2400	M. C. Cain.
160	South Hingham .	Plymouth	42	13	70	53	63	H. W. Cushing.

LIST OF STATIONS AND OBSERVERS.

No.	STATION.	County and State.	Lat. N.		Long. W.		Elevation.	OBSERVER.
161	Springfield	Hampden, Mass.	42°	06′	72°	35′	204	National Armory.
162	Swampscott (*a*).	Essex	42	27	70	58	. .	H. Richardson.
191	“ (*b*).	“	42	27	70	58	20	W. K. Lewis.
163	Taunton (*a*)	Bristol	41	54	71	05	41	Dr. E. U. Jones.
164	“ (*b*)	“	41	54	71	06	40*	A. F. Sprague.
165	“ (*c*)	“	41	54	71	06	14	Taunton Water Works.
184	“ (*d*)	“	41	54	71	06	40	C. H. Wilmarth.
181	Wakefield	Middlesex	42	30	71	04	107	S. W. Abbott.
166	Waltham	“	42	22	71	17	40	Boston Manufacturing Co.
168	Wellesley	Norfolk	42	17	71	20	. .	Prof. Sarah F. Whiting.
169	Westboro’	Worcester	42	16	71	38	. .	G. S. Newcomb.
170	Williamstown	Berkshire	42	43	73	13	690	Williams College Observatory.
171	Winchester	Middlesex	42	27	71	08	90*	L. R. Symmes.
185	Worcester	Worcester	42	16	71	46	. .	Worcester Academy.
201	Block Island	Newport, R. I.	41	10	71	35	27	U. S. Weather Bureau.
202	Bristol	Bristol	41	40	71	16	53	N. G. Herreshoff.
210	Kingston (*a*)	Washington	41	29	71	31	250	Nathaniel Helme.
211	“ (*b*)	“	41	29	71	32	166	R. I. Agr. Exp’t Station.
203	Lonsdale	Providence	41	55	71	24	116	G. W. Pratt.
204	Newport	Newport	41	32	71	13	75	Thomas Dunn.
205	Olneyville	Providence	41	48	71	29	25	C. H. Cannon.
206	Pawtucket	“	41	54	71	23	56	J. H. Walker.
207	Providence (*a*)	“	41	50	71	25	74	City Engineer’s Office.
208	“ (*b*)	“	41	50	71	25	70	D. W. Hoyt.
212	“ (*c*)	“	41	50	71	25	165	Winslow Upton.
221	Canton	Hartford, Conn.	41	50	72	55	900*	G. J. Case.
222	Colchester	New London	41	33	72	20	370*	Samuel P. Willard.
247	Falls Village	Litchfield	41	55	73	20	600*	M. H. Dean.
223	Hartford (*a*)	Hartford	41	45	72	41	. .	R. Maston.
224	“ (*b*)	“	41	45	72	42	145	Prof. Samuel Hart, D.D.
225	Lake Konomoc	New London	41	26	72	10	185	New London Water Works.
249	Lebanon	“ “	41	38	72	15	. .	J. H. Tucker.
237	Mansfield	Tolland	41	48	72	10	640	Storr School Exp’t Station.
226	Middletown	Middlesex	41	33	72	39	70	H. D. A. Ward.
227	New Hartford	Litchfield	41	50	73	01	410	R. R. Smith.
228	New Haven	New Haven	41	17	72	57	107	U. S. Weather Bureau.
241	Newington	Hartford	41	42	72	48	. .	T. A. Kirkham.
229	New London	New London	41	22	72	09	47	U. S. Weather Bureau.
250	N. Gros’nr Dale	Windham	41	54	71	54	375	Grosvenor Dale Co.
246	North Woodstock	“	42	00	72	03	. .	L. H. Healey.
230	Shelton	Fairfield	41	19	73	08	35*	Derby Gas Co.
248	South Manchester	Hartford	41	41	72	29	. .	K. B. Loomis.
238	Stevenson	New Haven	41	23	73	12	58	H. R. Stevens.
231	Thompson	“ “	41	57	71	51	600	Miss E. D. Larned.
232	Uncasville	New London	41	27	72	05	75	W. H. Rathbone.
233	Voluntown	“ “	41	36	71	50	260	Rev. E. Dewhurst.
234	Wallingford	New Haven	41	26	72	50	133	Mrs. B. F. Harrison.
235	Waterbury	“ “	41	31	73	05	450	N. J. Welton.
245	West Simsbury	Hartford	41	52	72	54	200*	S. T. Stockwell.
251	Albany	Albany, N. Y.	42	39	73	45	83	U. S. Weather Bureau.
252	Boyd’s Corners	Putnam	41	29	73	43	546	Thomas Manning.
253	Carmel	“	41	26	73	40	510	“ “
254	New York (*a*)	New York	40	46	73	58	97	Dr. D. Draper.
255	“ “ (*b*)	“ “	40	43	74	00	185	U. S. Weather Bureau.
258	Poughkeepsie	Dutchess	41	41	73	55	. .	Vassar College Observatory.
256	Setauket	Suffolk	40	58	73	05	40*	S. B. Strong.
257	S. E. Reservoir	Putnam	41	23	73	38	300	Thomas Manning.

TABLE XV.

SUMMARY OF OBSERVATIONS FOR YEAR 1891.

No.	Station.	Temperature.						Precipitation.		Rainy Days.	
		Mean Daily Range.	Highest.	Lowest.	Absolute Range.	Mean.		Rain and Snow.	Unmelted Snow.	Total.	Monthly Average.
						Max. and Min.	Tri. Daily.				
		1 °	2 °	3 °	4 °	5 °	6 °	7 in.	8 in.	9	10
1	St. John, N. B.	12.3	78	— 7	85	42.4	42.2	53.17	71	128	11
2	Bar Harbor, Me.	16.3	90	— 7	97	45.4	. .	46.11	53	127	11
3	Belfast	. .	87	— 8	95	. .	44.1	. .	58	. .	. .
14	Calais	17.8	89	— 8	97	44.4	. .	. .	92	. .	. .
4	Eastport	12.7	79	— 8	87	42.8	. .	36.44	49	142	12
5	Fairfield	22.7	93	—25	118	44.2	. .	38.13	50	119	10
8	Lewiston	19.3	93	—19	112	44.5	44.9	47.72	70	137	11
10	Orono	18.4	93	—17	110	44.4	44.5	47.46	82	135	11
11	Petit Menan	. .	74	— 5	79	. .	43.0	. .	. .	. .	. .
12	Portland	14.7	95	— 4	99	45.8	. .	43.28	49	143	12
15	West Jonesport	. .	82	— 3	85	. .	43.1	. .	. .	. .	. .
34	Berlin Mills, N. H.	25.2	90	—27	117	41.3	. .	38.47	87	120	10
37	Concord	18.7	96	— 9	105	46.8	. .	38.36	67	105	9
39	Hanover (*a*)	18.5	91	—16	107	44.5	44.7	32.38	61	101	8
58	" (*b*)	24.3	96	—19	115	45.0	44.4	32.70	50	84	7
59	Littleton	. .	89	—17	106	. .	42.2	38.29	66	126	10
42	Manchester (*b*)	19.5	95	—10	105	49.6	49.6	38.92	67	130	11
43	" (*c*)	19.6	96	— 7	103	47.7	. .	34.34	62	128	11
45	Nashua	22.1	98	— 5	103	48.3	48.4	39.17	70	115	10
57	Newton	20.8	97	— 7	104	46.7	. .	. .	50	96	8
47	North Conway	24.4	95	—16	111	44.3	. .	45.87	87	106	9
49	Plymouth	24.6	96	—12	108	43.7	. .	43.21	69	113	9
51	Stratford	24.7	94	—22	116	45.6	. .	31.24	52	91	8
52	Walpole	21.6	92	—12	104	45.0	. .	40.83	66	110	9
54	West Milan	26.6	90	—30	120	41.7	. .	37.37	79	127	11
71	Brattleboro' (*a*), Vt.	22.2	96	— 8	104	47.8	47.1	47.44	. .	. .	. .
73	Burlington	17.7	94	— 4	98	47.6	45.7	29.12	64	131	11
74	Chelsea	. .	81	—17	98	. .	40.2	37.46	84	147	12
88	Hartland	. .	88	—13	101	. .	. .	43.73	59	127	11
77	Jacksonville	25.4	90	—18	108	44.4	43.5	53.68	81	146	12
78	Lunenburgh	16.7	95	—15	110	46.1	45.8	30.61	67	116	10
82	Northfield	20.4	91	—17	108	42.6	. .	31.11	57	153	13
83	Strafford	. .	88	—14	102	. .	45.5	38.12	106	96	8
85	Vernon	. .	95	—10	105	. .	46.8	39.14	81	79	7
89	Weathersfield Ctr.	18.3	88	—12	100	44.6	. .	. .	. .	. .	. .
101	Amherst (*a*), Mass.	. .	91	— 5	96	. .	49.0	47.71	49	. .	. .
102	" (*b*)	20.7	93	— 6	99	47.8	47.7	42.58	60	108	9
177	" (*c*)	23.0	92	— 6	98	49.1	49.7	46.80	54	112	9
180	Andover	17.6	94	— 3	97	48.1	47.4	43.15	. .	117	10
104	Blue Hill (sum't)	16.4	93	— 1	94	47.9	47.3	50.27	. .	127	11
105	" " (base)	17.4	93	1	92	49.2	. .	50.78	48	. .	. .
174	" " (valley)	20.1	94	1	93	48.9	. .	49.46	. .	. .	. .
106	Boston (*a*)	14.8	96	2	94	50.4	. .	39.70	45	130	11
108	Cambridge (*a*)	16.1	93	1	92	48.5	. .	42.76	. .	108	9
109	" (*b*)	17.6	94	1	93	49.6	. .	50.63	. .	121	10
110	Chestnut Hill	20.0	96	0	96	50.4	. .	49.63	36	116	10
182	Concord	20.9	96	1	95	47.8	47.0	39.97	55	131	11
114	Cotuit	14.1	93	6	87	49.0	. .	51.35	17	110	9
116	Deerfield	. .	97	— 7	104	. .	48.5	. .	. .	. .	. .
117	Dudley	18.7	94	— 3	97	49.4	. .	36.52	29	97	8
120	Fitchburg (*a*)	. .	93	— 4	97	. .	47.6	45.58	79	128	11
121	" (*b*)	19.7	96	— 4	100	48.0	. .	43.59	75	114	10
122	Framingham	22.2	96	— 1	97	49.3	. .	49.21	. .	119	10
123	Gilbertville	22.4	98	— 2	100	47.4	. .	45.82	67	108	9

SUMMARY OF OBSERVATIONS FOR YEAR 1891.

No.	Station.	Temperature.						Precipitation.		Rainy Days.	
		1 °	2 °	3 °	4 °	5 °	6 °	7 in.	8 in.	9	10
124	Groton	18.8	94	— 3	97	49.0	. .	41.02	82	125	10
178	Kendal Green . . .	13.4	96	0	96	50.1	. .	46.40	55	93	8
127	Lake Cochituate . .	25.3	97	— 5	102	49.9	. .	46.46	. .	119	10
128	Lawrence	21.5	100	— 2	102	49.6	. .	39.98	58	106	9
129	Leicester	20.1	90	— 4	94	47.5	. .	40.74	. .	94	8
131	Long Plain	11.9	96	3	93	50.2	. .	57.19	13	126	10
133	Lowell (*b*)	18.3	92	— 2	94	48.8	. .	42.52	. .	123	10
136	" (*c*)	19.5	95	— 4	99	47.8	. .	. .	. .	. .	. .
176	" (*d*)	21.1	98	— 3	101	49.3	. .	. .	. .	80	7
134	Ludlow	21.9	94	— 7	101	46.4	. .	46.32	58	132	11
135	Lynn	15.5	89	0	89	46.8	. .	45.01	. .	120	10
183	Mansfield	. .	97	0	97	. .	49.0	52.32	35	141	12
139	Middleboro'	21.1	93	3	90	48.1	. .	45.79	22	122	10
140	Milton	20.1	94	0	94	48.3	. .	48.58	47	113	9
141	Monson	23.2	95	— 8	103	48.0	. .	45.78	. .	117	10
146	Nantucket	10.6	84	10	74	49.5	. .	34.83	. .	126	10
147	New Bedford (*a*) . .	16.1	90	4	86	48.8	49.1	47.83	17	99	8
148	" " (*b*) . .	17.2	94	4	90	50.1	. .	46.80	13	151	13
149	Newburyport	18.2	96	0	96	49.4	48.8	41.78	59	135	11
152	Northampton	17.6	98	0	98	50.1	. .	. .	. .	. .	. .
153	Plymouth	. .	94	6	88	. .	51.3	46.20	. .	115	10
155	Provincetown . . .	13.7	92	8	84	50.0	. .	42.06	20	105	9
161	Springfield	16.9	97	0	97	50.7	. .	47.00	62	115	10
163	Taunton (*a*)	19.6	97	5	92	51.4	. .	. .	. .	. .	. .
165	" (*c*)	21.9	96	4	92	49.8	. .	50.07	. .	138	12
184	" (*d*)	21.5	99	2	97	49.6	49.0	48.73	26	114	10
181	Wakefield	20.5	96	— 2	98	49.8	. .	44.62	54	96	8
169	Westboro'	20.4	99	— 2	101	50.8	. .	41.28	62	125	10
201	Block Island, R. I. .	10.6	85	9	76	50.0	. .	36.68	33	126	10
202	Bristol.	13.2	88	5	83	50.5	50.2	42.28	20	132	11
210	Kingston (*a*)	17.9	94	5	89	49.4	. .	49.95	21	117	10
211	" (*b*)	17.6	92	1	91	49.7	48.9	49.84	25	105	9
205	Olneyville	15.0	94	6	88	52.6	. .	. .	. .	. .	. .
207	Providence (*a*) . . .	16.3	98	6	92	52.1	51.5	53.19	31	124	10
208	" (*b*) . . .	20.2	98	2	96	50.6	. .	52.81	27	131	11
212	" (*c*) . . .	17.1	96	4	92	50.2	. .	55.98	29	127	11
221	Canton, Conn. . . .	20.2	97	— 5	102	49.3	. .	50.93	55	87	7
222	Colchester	19.3	93	4	89	49.9	. .	. .	. .	. .	. .
237	Mansfield	19.0	92	0	92	48.2	47.9	51.61	43	126	10
226	Middletown	18.8	96	5	91	50.3	49.6	53.79	28	121	10
228	New Haven	16.6	93	3	90	50.4	. .	44.69	22	128	11
229	New London	14.5	92	7	85	50.2	. .	48.73	23	154	13
250	North Grosvenor Dale	15.8	99	5	94	51.1	51.4	48.69	. .	107	9
231	Thompson	11.4	89	— 1	90	48.4	47.2	. .	. .	. .	. .
233	Voluntown	20.1	94	4	90	48.9	49.6	55.24	21	111	9
235	Waterbury	20.2	98	0	98	49.2	. .	48.60	35	124	10
251	Albany, N. Y. . . .	17.1	95	— 5	100	49.4	. .	41.68	. .	162	14
252	Boyd's Corner. . . .	. .	98	5	93	. .	51.6	48.09	57	111	9
253	Carmel	21.1	97	1	96	50.2	. .	46.34	50	113	9
254	New York (*a*) . . .	. .	98	14	84	. .	53.8	39.55	17	120	10
255	" " (*b*) . . .	14.7	94	9	85	53.8	. .	41.44	20	147	12
258	Poughkeepsie	23.5	99	— 7	106	49.1	. .	37.68	. .	111	9
256	Setauket	14.6	93	12	81	52.3	51.4	47.35	10	110	9

APPENDIX TO TABLE XV.

STATIONS REPORTING PRECIPITATION ONLY.

[Total Precipitation and Unmelted Snow in Year 1891.]

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N. H.	36.04	. .	179	Robert's Dam, Mass.	47.42	29
40	Lake Village, “	35.02	. .	159	Salem, “	42.90	56
44	Mine Falls, “	32.41	. .	160	So. Hingham, “	51.69	40
48	Pennichuck St'n, “	30.87	. .	166	Waltham, “	47.18	. .
53	Weir's Bridge, “	34.86	. .	171	Winchester, “	45.85	42
55	Wolfboro', “	35.52	. .	203	Lonsdale, R. I.	53.93	38
75	Cornwall, Vt.	. .	50	206	Pawtucket, “	48.17	33
187	Ashland, Mass.	49.93	. .	247	Falls Village, Conn. . . .	37.94	43
107	Boston (*b*) “	45.12	. .	224	Hartford (*b*), “	52.39	38
112	Clinton, “	40.00	. .	225	Lake Konomoc, “	54.16	. .
119	Fiskdale, “	42.47	. .	249	Lebanon, “	53.88	24
130	Leominster, “	44.84	64	227	New Hartford, “	52.62	55
138	Medford, “	42.95	. .	240	So. Manchester, “	48.97	. .
142	Mt. Nonotuck, “	47.88	43	238	Stevenson, “	48.58	. .
143	Mystic Lake, “	48.92	. .	234	Wallingford, “	52.87	21
144	Mystic Pmp'g Sta., “	46.45	. .	245	West Simsbury, “	45.72	45
156	Randolph, “	49.33	44	257	S. E. Reservoir, N. Y. . . .	48.17	. .

TABLE XVI.

MONTHLY MEAN PRESSURE AND RELATIVE HUMIDITY FOR 1891.

No.	STATION.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
		Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.
1	St. John, N. B. .	29.94	95	29.99	95	30.07	91	29.87	85	29.96	84	29.88	84
4	Eastport, Me. . .	29.96	74	30.00	76	30.08	72	29.89	72	29.97	74	29.89	77
12	Portland . . .	29.99	81	30.03	77	30.11	68	29.91	69	29.99	75	29.91	77
43	Manchester(*c*), N.H.	30.01	79	30.05	75	30.13	63	29.94	60	30.01	57	29.94	68
45	Nashua	29.99	81	30.04	77	30.11	69	29.92	63	29.98	62	29.92	69
71	Brattleboro(*a*), Vt.	29.97	85	30.02	85	30.11	78	29.96	75	30.08	75	29.92	79
82	Northfield	30.05	79	30.05	76	30.15	76	29.95	68	30.01	71	29.95	79
177	Amherst(*c*), Mass.	29.96	72	30.04	69	30.10	64	29.92	60	29.98	59	29.92	65
104	Blue Hill	29.99	82	30.04	80	30.10	71	29.93	68	30.00	69	29.92	74
106	Boston(*a*)	30.01	82	30.07	80	30.13	73	29.96	75	30.02	70	29.94	71
182	Concord	30.01	86	30.04	82	30.11	77	29.94	74	30.00	77	29.94	83
129	Leicester	30.02	. .	30.06	. .	30.12	. .	29.94	. .	29.96	. .	29.97	. .
176	Lowell(*d*)	29.98	88	30.02	87	30.03	86	29.90	74	29.97	69	29.93	73
146	Nantucket(*b*) . .	30.01	85	30.08	81	30.09	80	29.98	74	30.03	77	29.94	84
149	Newburyport(*a*) .	29.99	73	30.04	71	30.11	66	29.93	64	30.00	67	29.93	73
161	Springfield	30.01	76	30.08	77	30.10	68	29.94	57	29.99	56	29.93	66
163	Taunton(*a*) . . .	29.98	. .	30.03	. .	30.08	. .	29.92	. .	29.98	. .	29.90	. .
201	Block Island, R. I.	30.02	83	30.09	82	30.12	82	29.99	80	30.04	89	29.96	90
207	Providence	29.96	79	30.02	78	30.07	70	29.93	66	29.99	69	29.92	70
237	Mansfield, Conn. .	30.02	. .	30.08	. .	30.11	. .	29.96	. .	30.02	. .	29.95	. .
228	New Haven . . .	30.03	78	30.08	79	30.11	74	29.98	66	30.03	68	29.95	75
229	New London . . .	30.01	77	30.07	77	30.10	68	29.97	68	30.02	75	29.94	77
251	Albany, N. Y. . .	30.06	78	30.08	82	30.15	79	29.99	72	30.03	66	29.95	74
254	New York(*a*) . .	30.02	61	30.06	66	30.08	60	29.98	69	30.03	72	29.97	68
255	New York(*b*) . .	30.04	81	30.04	77	30.10	73	30.00	69	30.03	68	29.96	73
256	Setauket	30.05	. .	30.11	. .	30.13	. .	30.00	. .	30.07	. .	30.00	. .
	Mean	30.00	80	30.05	79	30.10	73	29.95	69	30.01	70	29.94	75

The changes of pressure due to the unperiodic passage of our frequent cyclones and anticyclones are much more emphatic than those due to the change of seasons, every month being characterized by variations above and below the mean of decidedly greater value than the mean annual variation. Moreover, in so moderate an area as ours, each month has as a rule its maximum and minimum pressures on a single date, or at most on two dates, at the time of passage of some dominating cyclone or anticyclone. In the same way, the absolute maxima and minima of pressure for the year are frequently the product of the master cyclone and anticyclone, respectively. The former occurred in 1891 on January 12, and the latter on November 19, at all our stations where the barometer is recorded. This agreement in the date of the lowest pressure is somewhat unusual, for in other years, several dates have competed for this distinction; but in 1891, the cyclone that came to us from the Gulf of Mexico on January 12, increasing in energy on the way, gave not only the lowest pressure of the year, but for many stations, the lowest pressure on record.

MONTHLY MEAN PRESSURE AND RELATIVE HUMIDITY FOR 1891.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.	Pressure.	Rel. Hum.
1	29.99	89	29.98	87	30.08	88	29.98	90	30.10	88	29.99	87	29.98	88
4	29.98	83	29.98	81	30.08	83	29.99	77	30.10	72	30.01	72	29.99	76
12	29.98	81	29.97	81	30.10	82	30.02	78	30.13	73	30.06	72	30.02	76
43	30.00	70	30.00	76	30.14	77	30.05	73	30.16	71	30.10	68	30.04	68
45	29.98	70	29.97	76	30.11	76	30.02	74	30.13	72	30.08	69	30.02	72
71	29.98	82	29.96	84	30.11	86	30.05	85	30.14	84	30.09	86	30.03	82
82	29.98	78	29.99	83	30.14	84	30.07	82	30.16	75	30.10	73	30.05	80
177	29.99	66	29.96	70	30.12	72	30.03	66	30.12	69	30.08	69	30.02	67
104	30.00	81	29.98	82	30.12	86	30.02	79	30.14	75	30.09	68	30.03	76
106	30.02	72	30.01	78	30.15	78	30.05	75	30.17	70	30.11	67	30.05	74
182	30.03	82	30.02	85	30.14	89	30.03	89	30.16	81	30.11	77	30.04	82
129	29.98	. .	29.96	. .	30.12	. .	29.96	. .	30.13	. .	30.12	. .	30.03	. .
176	29.98	76	29.96	85	30.08	87	29.98	86	30.12	75	30.08	72	30.00	80
146	30.04	87	30.02	84	30.15	82	30.02	79	30.16	76	30.14	79	30.06	81
149	30.01	77	29.99	80	30.13	81	30.03	75	30.14	70	30.08	67	30.03	72
161	30.00	70	29.99	74	30.13	76	30.05	68	30.14	68	30.12	68	30.04	69
163	29.99	. .	29.97	. .	30.11	. .	. .	. .	30.13	. .	30.08	. .	. .	. .
201	30.04	90	30.02	89	30.16	88	30.04	82	30.17	83	30.15	80	30.07	85
207	30.01	76	29.99	79	30.12	79	30.01	77	30.12	72	30.08	68	30.02	74
237	30.02	. .	29.99	. .	30.14	. .	30.04	. .	30.15	. .	30.13	. .	30.05	. .
228	30.01	77	29.99	81	30.13	82	30.05	78	30.16	74	30.14	73	30.06	75
229	30.02	82	30.00	83	30.14	83	30.04	76	30.16	77	30.14	74	30.05	76
251	30.00	76	29.99	79	30.14	80	30.08	80	30.16	76	30.14	82	30.06	77
254	30.05	73	30.03	75	30.18	73	30.08	64	30.17	63	30.16	59	30.07	67
255	30.02	75	30.00	81	30.15	80	30.07	75	30.17	75	30.17	74	30.06	75
256	30.07	. .	30.05	. .	30.19	. .	30.09	. .	30.20	. .	30.19	. .	30.10	. .
M	30.01	78	29.99	81	30.13	81	30.03	78	30.14	74	30.10	73	30.04	76

TABLE XVII.

MAXIMUM PRESSURE AND DATE FOR 1891.

No.	Station.	January.		February.		March.		April.		May.		June.	
		Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date	Highest.	Date.	Highest.	Date.
4	Eastport, Me. . . .	30.67	16	30.57	15	30.53	20	30.51	10	30.50	20	30.14	10
12	Portland	30.65	16	30.67	15	30.53	2	30.55	10	30.44	20	30.16	6
43	Manchester, N. H. .	30.64	16	30.69	15	30.57	2	30.57	10	30.45	20	30.22	6
45	Nashua	30.66	16	30.71	15	30.61	2	30.61	10	30.44	20	30.20	6
82	Northfield, Vt. . . .	30.69	16	30.70	15	30.64	2	30.56	10	30.39	20	30.23	6
177	Amherst, Mass. . .	30.62	16	30.70	15	30.57	2	30.56	10	30.44	20	30.22	6
104	Blue Hill	30.62	16	30.72	15	30.56	2	30.58	10	30.49	20	30.21	6
106	Boston	30.61	16	30.73	15	30.57	2	30.59	10	30.48	20	30.23	6
182	Concord	30.59	16	30.63	15	30.51	2	30.56	10	30.47	20	30.20	6
176	Lowell	30.60	17	30.65	15	30.55	2	30.56	10	30.43	20	30.22	6
146	Nantucket	30.54	16	30.70	15	30.49	2	30.60	10	30.54	20	30.22	6
149	Newburyport	30.65	16	30.72	15	30.57	2	30.58	10	30.47	20	30.21	6
163	Taunton	30.59	16	30.73	15	30.53	2	30.57	10	30.48	20	30.19	6
201	Block Island, R. I.	30.56	16	30.74	15	30.55	2	30.60	10	30.56	20	30.24	6
207	Providence	30.57	16	30.68	15	30.53	2	30.56	10	30.48	20	30.20	6
237	Mansfield, Conn. . .	30.62	16	30.71	15	30.61	2	30.58	10	30.46	20	30.24	6
228	New Haven	30.57	16	30.72	15	30.58	2	30.58	10	30.47	20	30.22	6
229	New London	30.56	16	30.73	15	30.56	2	30.57	10	30.48	20	30.22	6
251	Albany, N. Y. . . .	30.63	16	30.74	15	30.56	1	30.55	10	30.41	20	30.27	6
254	New York (*a*) . . .	30.51	16	30.70	15	30.56	2	30.58	10	30.48	20	30.23	6
255	New York (*b*) . . .	30.52	9	30.72	15	30.59	2	30.56	10	30.45	20	30.22	5
256	Setauket	30.56	16	30.75	15	30.58	2	30.61	10	30.51	20	30.26	6

TABLE XVIII.

MINIMUM PRESSURE AND DATE FOR 1891.

No.	Station.	January.		February.		March.		April.		May.		June.	
		Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.
4	Eastport, Me. . . .	28.91	12	29.07	3	29.42	14	29.22	3	29.60	17	29.57	28
12	Portland	28.68	12	29.24	3	29.37	13	29.16	3	29.68	16	29.64	16
43	Manchester, N. H. .	28.71	12	29.33	3	29.36	13	29.10	3	26.70	16	29.70	16
45	Nashua.	28.72	12	29.26	3	29.36	13	29.99	3	29.62	1	29.67	23
82	Northfield, Vt. . . .	28.78	12	29.38	25	29.28	13	29.37	3	29.68	1	29.73	23
177	Amherst	28.69	12	29.32	3	29.36	13	29.14	3	29.65	1	29.73	28
104	Blue Hill	28.75	12	29.26	3	29.39	13	28.88	3	29.61	1	29.68	28
106	Boston	28.77	12	29.35	3	29.40	13	28.97	3	29.69	16	29.70	28
182	Concord	28.79	12	29.34	3	29.42	13	29.11	3	29.71	1, 16	29.72	28
176	Lowell	28.79	12	29.28	3	29.40	13	29.16	3	29.63	16	29.52	24
146	Nantucket	29.00	12	29.26	26	29.49	13	29.13	3	29.66	1	29.69	28
149	Newburyport	28.73	12	29.26	3	29.36	13	28.91	3	29.64	1	29.67	16
163	Taunton	28.83	12	29.30	26	29.41	13	28.91	3	29.70	16	29.64	28
201	Block Island, R. I.	28.95	12	29.30	26	29.48	13	29.10	3	29.68	1	29.74	28
207	Providence	28.81	12	29.28	3	29.40	13	28.89	3	29.57	1	29.68	28
237	Mansfield, Conn. . .	28.86	12	29.40	26	29.41	13	29.14	3	29.67	1	29.71	28
228	New Haven	28.92	12	29.33	26	29.43	13	29.25	3	29.68	1	29.73	22
229	New London	28.92	12	29.32	26	29.44	13	29.10	3	29.66	1	29.74	28
251	Albany, N. Y. . . .	28.84	12	29.42	25	29.36	13	29.11	3	29.74	1	29.73	22
254	New York (*a*) . . .	28.92	12	29.33	3	29.40	13	29.34	3	29.65	1	29.74	22
255	New York (*b*) . . .	29.02	12	29.42	26	29.53	13	29.39	3	29.74	1	29.74	22
256	Setauket	28.98	12	29.42	26	29.47	13	29.33	3	29.72	1	29.79	28

MAXIMUM PRESSURE AND DATE FOR 1891.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.	Highest.	Date.
4	30.38	22	30.26	30	30.36	30	30.65	12	30.71	19	30.47	20	30.71	Nov. 19
12	30.39	22	30.27	26	30.40	30	30.72	12	30.74	19	30.49	20	30.74	Nov. 19
43	30.40	22	30.29	26	30.42	30	30.71	12	30.78	19	30.51	31	30.78	Nov. 19
45	30.40	22	30.27	26	30.47	30	30.75	12	30.80	19	30.48	18	30.80	Nov. 19
82	30.37	22	30.29	26	30.48	30	30.74	12	30.74	19	30.64	31	30.74	Nov. 19
177	30.37	22	30.27	26	30.45	30	30.67	12	30.74	19	30.55	31	30.74	Nov. 19
104	30.38	22	30.28	26	30.44	30	30.61	12	30.82	19	30.49	18	30.82	Nov. 19
106	30.40	22	30.30	26	30.42	30	30.65	12	30.81	19	30.47	18, 31	30.81	Nov. 19
182	30.40	22	30.29	26	30.39	30	30.60	12	30.79	19	30.50	31	30.79	Nov. 19
176	30.46	23	30.31	26	30.35	11	30.66	12	30.77	19	30.47	18, 31	30.77	Nov. 19
146	30.38	22	30.29	30	30.39	10	30.51	1	30.80	19	30.53	20	30.80	Nov. 19
149	30.42	22	30.30	26	30.47	30	30.69	12	30.81	19	30.48	20	30.81	Nov. 19
163	30.35	22	30.26	26	30.39	30	. .	. .	30.78	19	30.48	31	30.78	Nov. 19
201	30.40	22	30.27	26	30.40	11	30.52	12	30.82	19	30.52	31	30.82	Nov. 19
207	30.38	22	30.29	26	30.43	30	30.58	12	30.78	19	30.47	18	30.78	Nov. 19
237	30.39	22	30.26	26	30.44	30	30.61	12	30.89	19	30.56	31	30.89	Nov. 19
228	30.37	22	30.25	26	30.38	11	30.51	1	30.81	19	30.57	31	30.81	Nov. 19
229	30.38	22	30.25	26	30.39	11	30.55	12	30.81	19	30.53	31	30.81	Nov. 19
251	30.38	22	30.29	26	30.42	30	30.72	12	30.78	19	30.65	31	30.78	Nov. 19
254	30.40	22	30.29	26	30.45	30	30.62	12	30.83	19	30.61	31	30.83	Nov. 19
255	30.36	22	30.24	26	30.40	10	30.53	12	30.80	19	30.59	31	30.80	Nov. 19
256	30.41	22	30.30	26	30.46	11	30.56	12	30.82	19	30.62	31	30.82	Nov. 19

MINIMUM PRESSURE AND DATE FOR 1891.

No.	July.		August.		September.		October.		November.		December.		Year.	
	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.	Lowest.	Date.
4	29.54	8	29.60	1	29.58	7	29.27	23	29.27	27	29.12	16	28.91	Jan. 12
12	29.65	8	29.63	1	29.69	7	29.53	24	29.40	24	29.23	16	28.68	Jan. 12
43	29.72	8	29.68	1	29.78	7	29.63	27	29.40	23	29.29	16	28.71	Jan. 12
45	29.65	8	29.65	1	29.70	14	29.59	27	29.27	23	29.26	16	28.72	Jan. 12
82	29.68	4	29.66	21	29.82	7	29.66	21	29.26	23	29.33	16	28.78	Jan. 12
177	29.63	8	29.66	21	29.72	7	29.56	5	29.18	23	29.33	16	28.69	Jan. 12
104	29.61	8	29.69	2	29.66	7	29.50	23	29.29	23	29.27	16	28.75	Jan. 12
106	29.73	8	29.71	1	29.79	14	29.61	8	29.48	23	29.29	16	28.77	Jan. 12
182	29.72	8	29.71	1	29.77	7	29.60	8	29.47	23, 24	29.29	16	28.79	Jan. 12
176	29.63	8	29.70	2	29.72	7	29.56	31	29.26	23	29.30	16	28.79	Jan. 12
146	29.74	8	29.74	2	29.78	7	29.40	23	29.53	23	29.39	16	29.00	Jan. 12
149	29.62	8	29.68	1	29.71	7	29.53	23	29.34	24	29.28	16	28.73	Jan. 12
163	29.68	8	29.68	2	29.64	7	. .	. .	29.39	23	29.28	18	28.83	Jan. 12
201	29.77	30	29.72	2	29.83	14	29.58	23	29.44	23	29.38	16	28.95	Jan. 12
207	29.63	8	29.69	2	29.64	7	29.53	23	29.33	23	29.26	16	28.81	Jan. 12
237	29.76	4	29.70	2	29.73	7	29.60	5	29.33	23	29.32	16	28.86	Jan. 12
228	29.73	30	29.70	2	29.84	14	29.63	5	29.31	23	29.38	16	28.92	Jan. 12
229	29.76	4	29.70	2	29.82	14	29.61	5	29.37	23	29.36	16	28.92	Jan. 12
251	29.70	4	29.65	21	29.85	13	29.66	5	29.18	23	29.46	16	28.84	Jan. 12
254	29.72	8	29.71	2	29.82	7	29.62	27	29.31	23	29.45	16	28.92	Jan. 12
255	29.75	7	29.72	2	29.87	7	29.66	5	29.30	23	29.45	16	29.02	Jan. 12
256	29.80	30	29.75	2	29.81	7	29.68	5	29.30	24	29.46	16	28.98	Jan. 12

TABLE XIX.

MONTHLY TEMPERATURE NORMALS AND DEPARTURES FOR 1891.

No.	Station.		No. of Years.	January.		February.		March.		April.		May.	
				Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep
1	St. John,	N.B.	31	18.3	+4.2	20.8	+1.4	27.4	+1.1	37.6	+1.0	47.2	+0.3
3	Belfast,	Me.	32	19.1	+3.5	22.1	+0.4	29.9	—0.3	41.2	+1.5	52.1	—1.6
4	Eastport,	"	19	20.3	+3.9	22.2	+0.6	28.6	+0.4	38.4	+1.2	47.4	+0.2
10	Orono,	"	23	15.8	+5.4	19.0	+3.1	27.3	+1.6	40.1	+1.2	52.5	—1.3
12	Portland,	"	20	22.8	+1.1	25.6	—0.3	31.7	—1.3	43.3	+0.3	24.1	—4.3
37	Concord,	N.H.	23	21.7	+2.6	23.7	+2.3	30.7	—0.7	44.7	+1.5	57.1	—1.9
39	Hanover (*a*),	"	21	16.7	+4.5	18.9	+4.8	26.9	+1.7	41.3	+4.2	55.6	—2.6
78	Lunenburg,	Vt.	40	15.5	+6.7	17.2	+5.9	25.5	+3.4	38.0	+5.0	52.8	+1.8
83	Strafford,	"	17	16.6	+5.6	19.0	+3.4	26.3	+1.2	41.4	+3.0	56.4	—2.6
191	Amherst (*a*),	Mass.	54	23.6	+5.0	24.9	+4.3	32.7	+0.7	45.3	+3.2	56.9	—1.2
106	Boston (*a*),	"	21	26.7	+4.4	28.2	+3.8	32.2	+1.4	44.2	+3.8	56.2	—0.4
108	Cambridge (*a*),	"	69	25.0	+3.0	26.2	+2.9	33.8	—1.5	44.3	+3.3	56.1	—1.5
120	Fitchburg (*a*),	"	35	22.6	+4.0	24.3	+3.2	30.4	—0.2	42.6	+3.5	55.5	+0.1
147	New Bedford (*a*),	"	79	28.3	+2.8	29.0	+3.8	34.9	—1.1	44.5	+1.3	54.6	—1.4
149	Newburyport (*a*),	"	13	25.5	+3.5	27.1	+3.7	32.3	+0.6	44.3	+3.2	55.2	—1.0
161	Springfield,	"	24	25.0	+4.3	26.1	+4.3	32.8	+1.4	46.4	+4.0	59.3	—0.4
201	Block Island,	R.I.	11	31.6	+3.3	32.0	+2.9	34.5	+0.7	43.7	+1.2	52.3	—0.4
207	Providence (*a*),	"	60	27.1	+4.9	27.9	+5.7	34.4	+0.2	45.5	+4.6	56.3	+1.1
226	Middletown,	Conn.	33	25.2	+3.8	27.0	+4.5	33.3	+1.0	45.6	+3.3	57.1	—0.7
228	New Haven,	"	105	26.8	+4.0	28.3	+4.0	35.8	—0.7	46.8	+1.8	57.3	—1.3
229	New London,	"	21	29.0	+2.8	29.9	+2.5	35.3	+0.3	45.8	+1.8	56.4	—1.7
231	Thompson,	"	30	21.4	+3.7	25.8	+3.8	31.1	—0.1	44.2	+1.2	56.7	—3.3
235	Waterbury,	"	16	25.4	+1.8	27.6	+3.4	33.2	0.0	46.4	+0.7	57.8	—1.3
251	Albany,	N.Y.	18	23.3	+1.5	25.1	+3.1	31.8	+0.7	45.8	+2.8	59.3	—2.1
254	New York (*a*),	"	20	29.4	+4.4	30.9	+5.6	36.0	—0.2	48.1	+1.6	60.5	—2.7
	Mean for New England.			23.2	+3.8	25.1	+3.3	31.5	+0.4	43.5	+2.5	55.2	—1.2
	Mean for Maine.			19.5	+3.5	22.2	+1.0	29.4	+0.1	40.8	+1.0	51.5	—1.8
	Mean for Massachusetts.			25.2	+3.9	26.5	+3.7	32.7	+1.3	44.5	+0.2	56.3	—0.8
	Mean for Connecticut.			25.6	+3.2	27.7	+3.6	33.7	+0.1	45.8	+1.8	57.1	—1.7

NOTES.—(4) Eastport: January, February, March, October and November, mean for 18 years

(83) Strafford: January and February, mean for 16 years.

(120) Fitchburg (*a*): January, mean for 34 years.

(147) New Bedford (*a*): October to December, mean for 80 years.

MONTHLY TEMPERATURE NORMALS AND DEPARTURES FOR 1891.

No.	JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		YEAR.	
	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.
1	55.1	+0.9	60.6	—2.1	60.3	+1.4	55.4	+2.2	45.8	—1.1	35.2	+1.9	22.9	+ 8.7	40.6	+1.7
3	61.2	—2.2	66.3	—3.1	64.9	—1.1	57.4	+3.3	46.9	—1.0	36.1	+0.9	24.2	+ 8.0	43.4	+0.7
4	55.2	—0.1	60.3	—2.5	60.5	+0.5	55.8	+2.6	46.8	—0.6	36.3	+2.1	25.6	+ 7.4	41.4	+1.3
10	62.4	+0.3	67.4	—2.2	65.5	+0.8	57.5	+3.2	45.8	—0.2	34.0	+2.9	21.6	+10.0	42.4	+2.1
12	63.5	—2.2	68.6	—3.6	67.0	—1.0	60.2	+2.6	49.3	—1.9	38.2	—0.2	27.9	+ 7.6	46.0	—0.3
37	65.4	—1.8	70.5	—4.1	68.2	—0.6	60.5	+3.0	49.1	—1.8	37.6	—1.0	26.5	+ 8.2	46.3	+0.5
39	65.0	—1.5	69.3	—2.6	66.2	—1.6	57.6	+3.4	45.8	—0.6	32.9	0.0	21.3	+ 8.2	43.1	+1.5
78	64.1	+1.7	68.1	—0.3	65.4	+1.4	56.6	+7.1	44.7	+2.0	31.3	+5.1	19.4	+11.6	41.6	+4.3
83	65.5	—0.9	69.0	—3.3	67.6	+2.0	59.4	+3.7	46.6	0.0	34.2	+0.2	22.1	+ 9.1	43.7	+1.8
101	66.1	+1.5	70.5	—4.1	68.2	+0.3	60.2	+3.5	48.7	+2.7	38.3	0.0	27.1	+ 9.8	46.9	+2.1
106	65.6	—0.6	71.0	—2.0	69.1	+0.9	62.4	+4.3	51.6	0.0	40.4	+1.0	31.0	+ 9.4	48.2	+2.2
108	66.6	—2.2	71.7	—4.3	69.5	—0.3	61.8	+2.8	50.2	—1.4	39.2	—0.6	29.3	+ 8.0	47.8	+0.7
120	65.6	—0.3	70.2	—2.6	67.7	+0.9	59.7	+3.9	48.0	—0.6	36.6	+0.1	29.1	+ 6.5	46.0	+1.5
147	64.0	—1.4	69.5	—3.9	68.3	+1.2	59.3	+5.3	52.0	—2.3	41.8	—0.9	32.0	+ 7.1	48.2	+0.9
149	64.8	—0.5	69.0	—1.9	67.1	+1.2	60.7	+3.4	49.5	—0.3	39.6	+0.1	30.4	+ 7.5	47.1	+1.6
161	68.6	+0.3	73.2	—3.6	70.5	+1.6	63.0	+3.7	50.7	—0.4	38.7	+1.1	28.4	+ 9.7	48.5	+2.1
201	62.1	—1.1	68.0	—3.0	68.0	+1.2	63.6	+2.1	54.0	—0.9	45.3	—1.9	36.6	+ 5.1	49.3	+0.8
207	66.0	+1.5	71.5	—1.1	69.5	+2.6	62.1	+4.0	51.2	+0.1	40.4	+1.2	30.3	+10.5	48.5	+2.9
226	66.1	—0.1	70.5	—3.5	68.6	+1.4	61.3	+3.5	50.1	—0.8	39.4	+0.1	28.8	+ 9.1	47.8	+1.8
228	67.0	- 0.8	71.7	—4.1	70.2	+0.4	62.7	+3.7	51.4	—0.6	40.5	+0.3	30.8	+ 8.4	49.1	+1.2
229	65.5	—1.1	70.8	—4.2	69.7	+0.9	63.4	+3.0	53.1	—1.7	42.0	—0.8	32.9	+ 6.7	49.5	+0.7
231	65.6	—3.8	69.8	—4.6	67.3	+0.9	60.8	+3.8	50.1	—2.5	38.6	—0.7	27.7	+ 8.9	46.6	+0.6
235	67.4	—0.1	71.7	—3.8	69.5	+0.4	62.9	+3.1	51.8	—2.7	40.0	—3.0	29.4	+ 5.6	48.6	+0.3
251	68.4	—0.1	72.3	—3.2	70.5	+0.7	63.0	+4.4	51.0	—0.8	39.3	—0.5	28.8	+ 8.2	48.2	+1.2
254	70.4	+1.0	75.1	—2.7	72.9	+2.5	65.8	+5.8	54.8	—0.1	42.5	+1.8	32.9	+ 9.3	51.6	+2.2
M	64.7	—0.7	69.5	—3.1	67.6	+0.6	60.4	+3.6	49.4	—0.7	38.2	+0.3	27.8	+ 8.3	46.4	+1.4
M′	60.6	—1.0	65.6	—2.8	64.5	—0.8	57.7	+2.9	47.2	—0.9	36.2	+1.4	24.8	+ 8.0	43.3	+1.0
M″	64.5	—0.5	70.7	—3.2	68.6	+0.8	61.0	+3.8	50.1	—0.3	39.2	+0.1	29.6	+ 8.3	47.5	+1.6
M‴	66.3	—1.2	70.9	—4.0	69.1	+0.8	62.2	+3.4	51.3	—1.7	40.1	—0.8	29.9	+ 7.7	48.3	+0.9

(149) Newburyport (*a*) : January to May, mean for 12 years.

(161) Springfield : December, mean for 25 years.

(201) Block Island : September to December, mean for 12 years.

(231) Thompson : February, March, April, May, mean for 35 years ; June 37 years ; July, August, September, 38 years.

TABLE XX.

MONTHLY PRECIPITATION NORMALS AND DEPARTURES FOR 1891.

No.	Station.		No. of Years.	January.		February.		March.		April.		May.	
				Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.	Mean.	Dep.
1	St. John,	N.B.	31	5.03	+3.43	4.90	+0.36	4.88	—1.72	3.34	—0.79	4.33	—1.72
4	Eastport,	Me.	19	4.13	+1.37	4.07	—0.94	4.88	—2.13	3.26	—1.89	4.09	—2.45
8	Lewiston,	"	17	4.26	+3.84	4.41	—0.52	4.84	+2.19	3.33	—0.44	3.37	—0.77
10	Orono,	"	23	4.16	+3.50	4.11	—1.18	4.30	+0.90	2.90	+0.36	3.53	—0.72
12	Portland,	"	20	3.74	+3.98	3.67	+0.64	3.55	+1.93	2.96	—1.07	3.26	+0.21
37	Concord,	N.H.	35	3.22	+2.49	2.74	+0.80	3.16	+1.03	2.86	—0.45	3.16	—0.82
39	Hanover,	"	. .	2.90	+1.62	2.28	+0.12	2.48	—0.16	1.96	+0.25	3.09	—1.19
78	Lunenburg,	Vt.	40	3.01	+0.74	2.87	—0.92	3.25	—1.09	2.67	—0.49	3.55	—0.08
83	Strafford,	"	17	3.57	+2.53	3.09	+0.21	3.50	—0.30	2.34	+0.06	3.33	—0.23
101	Amherst,	Mass.	56	3.42	+4.75	3.18	+0.89	3.44	—0.30	3.14	+0.43	3.86	—2.05
106	Boston, (*a*),	"	21	4.36	+0.03	3.58	+0.08	4.27	—0.33	3.51	—1.80	3.49	—1.93
108	Cambridge, (*a*),	"	50	4.16	+1.93	3.56	+1.00	3.88	+1.02	3.64	—1.20	3.62	—1.52
110	Chestnut Hill,	"	19	4.46	+2.52	3.72	+1.57	4.28	+1.35	3.68	—0.70	3.41	—1.36
114	Cotuit,	"	12	4.07	+3.43	4.10	+1.65	3.62	+0.04	3.20	—0.55	3.52	—0.90
122	Framingham,	"	17	4.30	+2.72	4.00	+1.12	4.70	+1.93	3.32	+0.44	3.12	—0.95
127	Lake Cochituate,	"	40	3.88	+2.79	3.62	+1.40	4.24	+1.25	3.98	—0.36	3.87	—2.20
133	Lowell (*b*),	"	37	4.16	+2.89	3.62	+1.21	4.29	+1.71	3.72	—0.16	3.60	—1.31
134	Ludlow,	"	16	4.01	+3.86	3.65	+1.05	4.02	—1.03	2.64	+0.23	3.13	—1.58
135	Lynn,	"	19	4.25	+2.17	3.87	+1.25	4.58	—0.07	3.54	—1.09	3.28	—0.99
143	Mystic Lake,	"	16	4.27	+1.99	3.95	+1.03	4.49	+1.70	3.27	+0.23	3.27	—0.72
147	New Bedford (*a*),	"	78	3.95	+4.41	3.83	+3.17	4.24	+1.57	3.95	—1.17	3.99	—1.55
149	Newburyport (*a*),	"	13	5.20	+1.66	4.52	+0.31	4.26	+0.25	3.02	—0.92	3.76	—1.37
161	Springfield,	"	44	3.54	+4.32	3.52	+0.81	3.70	—0.10	3.26	—0.71	4.08	—1.90
166	Waltham,	"	67	3.21	+2.50	2.74	+2.09	3.55	+2.41	3.72	—0.58	3.60	—1.67
201	Block Island,	R.I.	11	4.30	—0.05	4.88	—0.91	3.89	—1.47	2.89	—1.70	3.73	—2.32
203	Lonsdale,	"	12	4.91	+2.70	5.01	+1.07	3.93	+1.85	3.02	+0.74	3.90	—1.81
207	Providence,	"	60	4.00	+4.14	3.65	+2.35	4.05	+1.50	3.68	—0.10	3.62	—1.33
221	Canton,	Conn.	30	3.88	+5.41	3.86	+0.60	4.19	+0.91	3.36	+0.55	4.32	—2.29
224	Hartford,	"	20	4.46	+4.80	3.92	+1.18	3.93	+1.53	3.15	+1.00	3.30	—1.31
226	Middletown,	"	33	4.37	+4.87	4.06	+2.03	4.64	+1.32	3.24	+0.66	3.66	—2.04
228	New Haven,	"	19	4.34	+2.43	4.30	+1.58	4.74	—1.06	3.78	—1.43	3.46	—1.54
229	New London,	"	21	4.44	+1.92	4.11	+2.35	4.85	—0.86	3.80	—0.68	3.47	—2.05
234	Wallingford,	"	33	4.60	+4.55	4.31	+2.42	4.75	+0.30	3.69	+0.18	4.42	—2.08
251	Albany,	N.Y.	18	3.01	+3.11	2.64	+1.50	2.93	+0.19	2.61	—0.34	2.96	—1.27
252	Boyd's Corner,	"	25	4.02	+5.74	3.97	+2.03	3.96	—0.60	3.45	+0.32	3.64	—2.28
254	New York (*a*),	"	20	3.58	+2.54	3.73	+0.39	3.82	—0.21	3.18	—0.80	2.84	—0.39
	Mean for New England.			4.05	+2.90	3.78	+0.92	4.09	+0 56	3.26	—0.39	3.59	—1.40
	Mean for Maine.			4.07	+3.15	4.06	—0.50	4.39	+0.72	3.11	—0.76	3.56	—0.93
	Mean for Massachusetts.			4.08	+2.80	3.70	+1.24	4.10	+0.76	3.44	—0.53	3.57	—1.47
	Mean for Connecticut.			4.35	+4.00	4.11	+1.69	4.52	+0.36	3.50	+0.05	3.77	—1.88

NOTES.—(4) Eastport: January, February, March, October, November, mean for 18 years.

(37) Concord: June and August, mean for 36 years; September to December, 34 years.

(39) Hanover: January, mean for 43 years; February to April, 45 years; May to July, 48 years; August, 44 years; September to December, 21 years.

(83) Strafford: January and February, mean for 16 years.

(101) Amherst (*a*): August to December, mean for 57 years.

(108) Cambridge (*a*): October to December, mean for 51 years.

(114) Cotuit: January to May, mean for 11 years.

MONTHLY PRECIPITATION NORMALS AND DEPARTURES FOR 1891.

JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		YEAR.	
Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Mean	Dep.	Total	Dep.
3.44	—0.24	3.91	—0.59	3.80	+1.61	3.97	+1.17	4.82	+1.99	5.54	—1.80	4.82	—1.31	52.78	+0.39
3.75	—0.74	4.29	—1.68	3.45	+0.61	3.40	—0.75	4.60	—0.17	4.46	—2.15	4.14	—1.15	48.52	—12.07
3.69	—0.05	3.88	+1.39	3.39	—0.42	3.59	—2.59	4.16	—1.76	4.63	—1.97	4.56	+0.71	48.11	—0.39
3.40	—0.20	3.40	+0.16	3.56	+1.11	3.44	+0.24	4.42	—1.57	4.39	—1.51	4.07	+0.69	45.68	+1.78
3.48	—0.71	3.81	+0.97	3.45	—2.30	3.24	—1.30	3.88	—0.66	3.97	—1.59	3.65	+0.52	42.66	+0.62
3.29	+0.03	3.86	—0.52	3.96	—1.01	3.52	—1.43	4.06	—1.43	3.55	—1.82	2.94	+1.17	40.32	—1.96
3.40	+0.15	3.04	+1 30	3.44	—0.23	2.77	—1.23	2.63	—1.13	2.90	—0.90	2.54	+0.35	32.38	—1.05
3.51	—1.59	3.96	+1.07	3.70	—1.03	3.34	—1.20	3.53	—3.02	3.24	—0.74	2.95	—0.62	39.58	—8.97
3.45	+0.07	4.36	—0.51	3.84	—0.34	3.56	—1.96	3.23	—1.23	3.68	—1.63	3.23	+0.27	41.18	—3.06
3.77	+1.05	4.56	+0.23	4.38	+0.32	3.47	—1.22	3.82	—1.01	3.80	—1.09	3.57	+1.31	44.41	+3.31
3.28	—0.22	3.58	+0.15	4.41	—0.54	3.12	—0.83	4.19	+1.37	4.59	—2.24	3.45	+0.13	45.83	—6.13
3.05	+0.52	3.46	—0.53	4.61	—1.40	3.58	—0.95	3.54	+1.28	3.90	—1.68	3.68	—0.39	44.68	—1.92
3.02	+1.02	3.67	—0.23	4.30	—0.28	3.22	—0.15	4.11	+1.59	4.41	—1.71	3.38	+0.35	45.66	+3.97
2.84	—1.19	3.30	—1.11	3 64	+0.49	3.71	+1.86	4.72	+5.42	3.41	—1.69	3.58	+0.19	43.71	+ 7.64
2.87	+0.50	3.57	—0.50	4.19	+1.03	3.09	—0.74	4.36	—0.66	4.03	—0.99	3.67	+0.09	45.22	+3.99
3.31	+0.49	4.23	—1.24	4.94	—0.03	3.59	—1.47	4.29	—0.15	4.44	—1.58	3.59	—0.42	47.98	—1.52
3.38	+0.28	3.89	—0.72	4.65	—2.51	3.25	—1.47	3.80	—0.88	3.81	—1.90	3.76	—0.55	45.93	—3.41
3.76	+0.07	4.64	+1.20	3.89	—0.57	3.50	—1.73	3.61	+0.12	3.44	—0.44	3.48	+1.37	43.77	+2.55
2.96	+0.87	3.72	—0.34	4.45	—1.54	3.24	—0.81	4.09	+1.86	4.16	—1.85	3.32	+0.09	45.46	—0.45
3.00	+1.53	4.06	—0.90	3.93	+0.17	3.08	—0.77	4.02	+0.92	3.99	—1.21	3.37	+0.25	44.70	+4.22
3.17	—1.62	3.35	—1.38	4.26	—2.17	3.55	—1.24	3.92	+3.05	4.28	—1.11	4.10	—0.72	46.59	+1.24
2.96	+0.83	3.64	+0.03	3.57	—1.53	3 09	—1.43	3.92	+0.40	3.83	—1.49	3.97	—0.70	45.74	—3.96
3.79	—0.29	4.50	+1.87	4.52	—0.51	3.55	—2.14	4.20	—0.81	3.81	—0.81	3.56	+1.24	46.04	+0.97
3.15	+0.87	3.76	—0.93	4.51	+0.81	3.37	—0.84	3.80	+0.54	4.05	—1.38	3.06	+0.84	42.52	+4.66
3.03	—1.20	3.10	+0.28	3.00	+0.51	3.06	—1 37	4.60	+2.73	3.84	—0.95	3.72	—0.91	44.04	—7.36
2.98	+1.12	3.52	+0.74	4.38	+1.53	3.42	—0.93	4.52	+0.12	3.61	—0.97	4.04	+0.53	47.24	+6.69
3.28	+0.22	3.27	+0.04	4.28	+1.98	3.14	—0.37	3.69	+1.01	4.09	—1.25	3.89	+0.36	44.64	+8.55
4.72	—1.61	4.70	+0.51	5.01	—0.15	3.83	—2.37	4.97	—2.32	4.39	—0.58	3.77	+1.27	51.00	—0.07
2.96	—0.88	4.70	—0.29	4.61	—0.69	3.27	+1.19	3.71	—0.14	3.59	—0.95	3.91	+1.44	45.51	+6.88
3.59	—0.89	4.42	+0.56	4.91	—1.39	3.61	—0.15	4.10	+0.12	3.91	—0.90	3.86	+1.22	48.37	+5.41
3.19	—1.29	5.32	—0.80	5.38	—2.24	3.91	+0.05	4.16	+0.46	3.87	—1.66	3.61	+0.13	50.06	—5.37
3.39	—0.58	4.28	—0.91	4.99	0.00	3.57	—0.97	4.57	+1.93	3.95	—0.58	3 48	+0.26	48.90	—0.17
3.72	—2.33	4.35	+1.08	5.12	—2.11	3.70	+0.14	4.18	+0.04	3.93	—1.07	4.23	+0.74	51.00	+1.86
3.78	—1.13	4.12	+1.99	3.88	+2.00	3.55	—1.61	3.42	—1.29	3.06	—0.66	2.83	+0.40	38.79	+2.89
3.73	—1.92	4.63	—1.60	4.92	+0.69	4.22	—2.55	4.28	—2.07	3.87	—0.01	3.91	+1.74	48.60	—0.51
3.40	—1.92	4.33	—0.39	4.67	—0.16	3.58	—1.09	3.56	—0.96	3.20	—0.90	3.23	+0.32	43.12	—3.59
3.35	—0.19	3.94	—0.03	4.21	—0.45	3.31	—0.90	4.04	+0.19	3.94	—1.32	3.63	+0.31	45.30	+0.20
3.58	—0.42	3.84	+0.21	3.46	—0.25	3.42	—1.10	4.26	—1.04	4.36	—1.80	4.10	+0.19	46.24	—2.52
3.22	+0.31	3.86	—0.27	4.28	—0.55	3.36	—0.93	4.04	+0.87	4.00	—1.41	3.77	+0 21	45.42	+1.01
3.60	—1.26	4.63	+0.02	5.00	—1.10	3.65	—0.35	4.28	+0 02	3.94	—0.96	3.81	+0.84	49.14	+1.42

(134) Ludlow : January, mean for 14 years.
(135) Lynn : July to December, mean for 20 years.
(147) New Bedford (*a*) : October to December, mean for 79 years.
(149) Newburyport (*a*) : January to May, mean for 12 years.
(166) Waltham : January, mean for 65 years ; February, 62 years ; August, December, 66 years.
(201) Block Island : September to December, mean for 12 years.
(234) Wallingford : April to July, mean for 34 years.

TABLE XXI.

MAXIMUM WIND VELOCITY AND TOTAL WIND MOVEMENT FOR 1891.

No.	Station.	January.		February.		March.		April.		May.		June.	
		Max. Vel.	Total Mov'm t.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.
1	St. John, N.B. .	40	6933	34	7462	30	8435	41	5678	24	6159	24	5974
4	Eastport, Me. . .	48	9380	33	8243	42	10739	60	6455	24	4680	35	6037
12	Portland	50	6507	36	6095	33	8061	40	5923	39	5703	24	5083
43	Manchester(*c*),N.H.	25	4075	25	4155	28	5834	30	4907	30	3856	22	3192
45	Nashua	32	3657	31	4147	30	5807	28	4992	29	3937	18	2784
71	Brattleboro(*a*),Vt.	55	7983	45	7456	40	7440	40	7886	55	7106	30	4926
82	Northfield	45	6294	40	8343	60	7945	36	7217	54	6476	36	5926
177	Amherst(*c*), Mass.	57	4954	52	4759	46	6261	53	5484	46	4610	46	3713
104	Blue Hill	78	15340	65	15459	69	17249	63	14026	45	12709	41	10716
106	Boston(*a*)	48	8725	41	9215	45	10907	60	9048	36	8338	28	7527
146	Nantucket	50	9156	40	9330	50	12694	52	8304	38	8144	46	7482
149	Newburyport (*a*) .	34	3843	30	3820	32	5558	37	4115	30	3318	19	2218
201	Block Island, R.I.	85	13693	72	12961	84	16755	70	12537	36	10665	44	10365
228	New Haven, Conn.	46	6902	33	6108	34	8783	38	6528	31	5856	26	5011
229	New London . . .	54	5750	36	5358	48	7904	36	6104	25	5326	21	4336
251	Albany, N. Y. . .	44	5678	30	5971	28	6733	26	5960	30	5289	24	4568
254	New York(*a*) . .	. .	5729	. .	5290	. .	7247	. .	5163	. .	4972	. .	4115
255	New York(*b*) . .	44	9292	38	8351	45	11254	37	8806	38	8629	35	6502
	Mean		7438		7374		9200		7174		6432		5582

MAXIMUM WIND VELOCITY AND TOTAL WIND MOVEMENT FOR 1891.

No.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		YEAR.	
	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.	Max. Vel.	Total Mov'm't.
1	19	4840	28	4489	24	5226	28	6393	46	7705	40	7817	46	77111
4	26	4650	30	4948	28	5099	38	7487	38	7407	47	8717	60	83842
12	27	5959	24	5007	26	5078	33	5981	46	6542	48	7082	50	73021
43	19	3345	18	3101	20	2715	28	4207	26	4437	33	4799	33	48623
45	19	3011	19	3109	18	2785	22	3913	32	4316	30	4119	32	46577
71	30	5927	25	4007	20	4208	30	5156	78	8107	40	9307	78	79509
82	30	6079	30	4725	33	5313	42	5914	45	7630	48	7924	60	79786
177	30	3907	22	3324	28	3201	39	4319	56	5215	53	5465	57	55212
104	43	10678	51	10577	37	10177	51	14081	59	14879	70	17218	78	163109
106	30	7627	36	7099	27	6482	40	9257	48	8733	52	10360	60	104118
146	46	6600	30	6540	48	6173	58	11530	54	9818	50	9978	58	105449
149	27	1825	30	1901	28	1766	28	3764	32	3901	38	4496	38	40525
201	36	8765	46	9381	34	7965	72	15585	63	13439	60	14975	85	147086
228	28	5355	40	4934	22	4512	30	6459	39	7011	48	6977	48	74436
229	26	4848	28	4735	23	3995	34	6171	46	6725	52	7082	54	68534
251	36	5135	36	3812	34	4299	38	4539	50	5913	48	4253	50	62150
254	. .	4058	. .	3479	. .	3503	. .	5868	. .	5620	. .	6152	. .	61196
255	31	7051	27	6213	28	5847	42	9685	47	8970	53	10082	53	100782
		5537		5077		4908		7239		7576		8156		81726

TABLE XXII.

MONTHLY SUMMARY OF OBSERVATIONS FOR 1891.

TABLE XXIII.

DAILY PRECIPITATION AT CERTAIN STATIONS SELECTED GEOGRAPHICALLY.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	New Brunswick.														
1	St. John	29.8	15.0	14.8	46	23	—1	14, 17	22.4	22.5	8.46	28	8	14	*c*
	Maine.														
2	Bar Harbor . .	33.2	17.9	15.3	49	12	0	14	25.6	. .	7.21	23	8	14	
3	Belfast	. .	. .	. .	42	*g*	2	14	. .	22.6	. .	24	8	11	*a c g*
14	Calais	31.0	14.1	16.9	49	12, 22	—3	14	22.6	. .	9.52	40	14	13	
4	Eastport	30.3	18.2	12.1	49	12	—1	14	24.2	. .	5.50	. .	. .	16	
5	Fairfield	29.6	11.5	18.1	47	22, 23	-20	1	20.5	. .	6.12	14	14	15	
7	Kent's Hill . . .	28.6	13.3	15.3	47	22	—4	14	20.9	. .	6.28	25	28	16	
8	Lewiston	30.1	12.1	18.0	46	30	-19	1	21.1	21.7	8.10	28	24	14	*b*
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
10	Orono	29.5	11.2	18.3	48	23	-17	1	20.4	21.2	7.66	. .	10	17	*b*
11	Petit Menan . .	. .	. .	. .	45	11, 12	10	1, 20	. .	28.6	. .	. .	. .	. .	*a b*
12	Portland	30.4	17.4	13.0	48	30	1	1	23.9	. .	7.72	24	18	16	
15	West Jonesport	. .	. .	. .	45	12, 23	0	14	. .	25.9	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	28.9	4.0	24.9	44	22	-26	1	16.5	. .	. .	. .	. .	. .	
34	Berlin Mills . .	29.8	4.8	25.0	46	23	-27	1	17.3	. .	4.58	22	. .	10	
37	Concord	33.4	15.2	18.1	46	22	—6	10	24.3	. .	5.71	22	24	13	
60	Grafton	33.3	9.1	24.2	48	23	-17	1	21.2	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	28.9	13.0	15.9	44	22	-14	4	21.0	21.2	4.52	17	. .	14	*b*
58	" (*b*)	32.1	9.4	22.7	48	30	-17	4	20.7	20.6	4.41	15	16	11	*d*
59	Littleton	27.1	9.0	18.1	48	22	-14	1	18.0	19.2	4.11	21	18	16	*c*
42	Manchester (*b*)	34.2	16.0	18.1	50	22	—2	9, 10	25.1	25.9	7.06	27	10	16	*b*
43	" (*c*)	33.7	17.5	16.2	53	22	0	9	25.6	. .	6.10	26	14	16	
45	Nashua	34.5	16.1	18.4	52	22	—4	10	25.3	25.8	6.61	26	12	16	*c*
57	Newton	33.0	16.8	16.1	48	12, 30	0	4	24.9	. .	6.39	20	15	15	
47	North Conway .	32.2	11.0	21.2	46	30	-10	17	21.6	. .	6.31	22	. .	10	
49	Plymouth . . .	31.9	10.1	21.8	44	22, 23	-13	1	21.0	. .	6.09	20	24	12	
51	Stratford	30.8	10.7	20.1	46	23	-19	1	20.8	. .	4.65	14	12	8	
52	Walpole	30.6	9.7	20.9	50	22	-12	1	20.2	. .	5.68	11	. .	12	
54	West Milan . .	30.2	5.5	24.7	44	23	-30	1	17.8	. .	4.86	23	. .	13	
	Vermont.														
71	Brattleboro' (*a*)	32.5	15.4	17.1	48	22	—5	10	23.9	24.0	6.92	18	30	12	*c*
72	" (*b*)	32.6	17.7	14.9	49	22	—1	10	25.2	24.1	. .	. .	24	. .	*c*
73	Burlington . . .	30.2	13.7	16.5	46	2	—4	16	21.9	22.2	2.85	23	12	18	*c*
74	Chelsea	. .	. .	. .	40	2	—3	4, 16	. .	20.4	4.38	24	18	13	*a b*
88	Hartland . . .	31.6	12.2	19.4	48	28	-10	10	21.9	. .	6.27	15	18	14	
77	Jacksonville . .	34.2	11.4	22.8	45	22	—9	4	22.8	22.8	6.85	14	24	15	*c*
78	Lunenburgh . .	29.1	15.6	13.5	45	23	—3	16	22.4	22.2	3.75	21	30	15	*b*
82	Northfield . . .	26.6	8.7	17.9	44	22	-15	4	17.6	. .	3.79	. .	20	17	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	44	22	—4	4	. .	22.2	6.10	31	18	13	*a b*
85	Vernon	. .	. .	. .	48	21	—4	10	. .	23.7	7.52	20	. .	10	*a c*
89	Weathersfield Ct.	29.2	13.9	15.3	43	22	—6	3	21.6	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	52	22	1	4	. .	28.6	8.17	18	. .	. .	*a b*
102	" (*b*) . .	34.6	16.8	17.8	50	22	—1	10	25.7	26.3	6.61	19	7	13	*b*
177	" (*c*) . .	36.0	16.8	19.2	52	22	0	10	26.4	27.6	6.75	18	6	13	*e*
180	Andover . . .	33.9	20.2	13.7	51	22	5	4	27.0	26.8	4.25	13	8	12	*b*
104	Blue Hill (sum't)	35.2	21.5	13.7	52	22	11	4	28.3	28.2	6.71	14	1	14	*d*
105	" " (base)	36.4	22.6	13.7	54	22	7	9	29.7	. .	7.35	. .	. .	. .	
174	" " (valley)	36.8	21.8	15.0	54	22	5	9	29.3	. .	6.91	. .	. .	. .	
106	Boston (*a*) . . .	37.6	24.6	13.0	56	22	12	4	31.1	. .	4.39	. .	. .	14	
175	Brewster	. .	. .	. .	. .	.	. .	. .	. .	. .	. .	. .	. .	. .	
108	Cambridge (*a*) .	35.1	20.8	14.3	51	22	9	5	28.0	. .	6.09	. .	. .	15	
109	" (*b*) .	36.6	21.9	14.7	54	22	11	4, 9	29.2	. .	6.68	. .	. .	15	
110	Chestnut Hill .	36.8	21.8	15.0	54	22	9	9	29.3	. .	6.98	11	. .	13	
182	Concord	35.4	19.4	14.0	52	22	2	9	27.4	27.4	5.45	. .	2	14	*f*
114	Cotuit	37.0	25.5	11.5	50	2	12	14	31.2	. .	7.50	. .	. .	12	
116	Deerfield	. .	. .	. .	45	28	—2	10	. .	25.7	. .	. .	. .	. .	*a b*
117	Dudley	36.2	20.6	15.5	52	22	8	14	28.4	. .	7.57	. .	1	9	
120	Fitchburg (*a*) .	. .	. .	. .	42	12, 22	5	9	. .	26.6	7.06	24	15	15	*a b*
121	" (*b*) .	34.6	18.7	15.9	51	22	2	4	26.7	. .	6.95	22	10	13	
186	Florida	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
122	Framingham . .	36.8	19.8	17.0	51	22	8	4	28.3	. .	7.02	6	. .	18	
123	Gilbertville . . .	34.2	17.5	16.7	48	22	1	9	25.8	. .	6.53	20	8	13	
124	Groton (*a*) . .	35.7	20.6	15.1	49	22, 23	0	4	28.2	. .	6.61	23	12	14	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green .	34.3	23.4	10.9	50	22	0	9	28.8	. .	6.91	16	. .	11	
127	Lake Cochituate	39.7	18.1	21.6	57	22	—1	9	28.9	. .	6.67	. .	. .	17	
128	Lawrence . . .	35.6	17.9	17.7	50	22	—2	9	26.8	. .	6.11	20	7	8	
129	Leicester	34.0	19.2	14.8	50	22	9	14	26.6	26.6	7.19	. .	2	11	*d*
131	Long Plain . . .	35.5	26.3	9.3	51	2	10	9	30.9	. .	10.08	5	0	13	*a*
133	Lowell (*b*) . .	34.2	18.5	15.7	52	22	2	9	26.3	. .	7.05	. .	4	15	
136	" (*c*) . . .	34.5	17.9	16.7	51	22	0	9	26.2	. .	. .	. .	4	. .	
176	" (*d*) . . .	35.6	20.4	15.2	52	22	7	4	28.0	. .	. .	. .	. .	11	
134	Ludlow	34.1	16.0	18.1	50	22	0	9	25.0	. .	7.87	19	6	17	
135	Lynn	34.4	20.5	13.9	47	22	10	9	27.4	. .	6.42	. .	. .	14	
183	Mansfield	. .	. .	. .	52	22	9	9, 10	. .	28.9	8.20	10	. .	15	*a b*
139	Middleboro' . .	37.3	21.0	16.3	53	12, 22	3	9	29.2	. .	7.90	9	. .	13	
140	Milton	38.0	19.3	18.8	54	7	6	9	28.6	31.8	6.56	15	2	14	*b*
141	Monson	38.2	15.4	22.8	49	2	—2	9	26.8	. .	7.33	14	. .	14	
173	Nahant	35.9	25.2	10.7	50	22	17	9	30.6	. .	. .	. .	. .	. .	
146	Nantucket . . .	38.9	28.9	10.0	52	12	12	14	33.9	. .	4.51	. .	. .	13	
147	New Bedford (*a*)	37.6	23.3	14.3	48	22	12	9	30.4	31.1	8.36	. .	. .	8	*b*
148	" " (*b*)	39.6	24.9	14.7	50	*h*	11	9	32.2	. .	9.17	3	0	12	*h*
149	Newburyport (*a*)	36.7	21.6	15.2	51	22	7	1	29.1	29.0	6.86	19	6	16	*b*
152	Northampton .	35.7	21.7	14.0	49	22	5	10	28.7	. .	. .	. .	. .	. .	*i*
153	Plymouth . . .	. .	. .	. .	53	2	18	13	. .	33.6	8.36	2	. .	12	*a b*
154	Princeton . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
155	Provincetown .	38.3	27.6	10.7	49	22	14	14	32.9	. .	6.71	6	0	16	
158	Salem (*a*) . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
160	South Hingham	. .	22.7	. .	. .	. .	4	1	. .	. .	7.58	14	. .	16	
161	Springfield . . .	34.9	20.6	14.3	52	22	4	4	27.7	29.3	7.86	24	6	14	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	40.0	24.5	15.5	54	22	11	9	31.2	31.6	8.34	8	T	12	*b*
164	" (*b*) . .	39.5	23.5	16.0	54	22	11	4	31.5	. .	8.38	10	0	15	
165	" (*c*) . .	39.9	22.1	17.8	55	22	6	9	31.0	. .	8.51	. .	. .	17	
184	" (*d*) . .	36.1	20.4	15.7	53	12	9	9	28.6	29.3	8.40	8	. .	13	*b*
181	Wakefield . . .	36.3	19.4	16.9	52	22	4	1	27.8	. .	6.23	12	2	10	
168	Wellesley . . .	3.94	19.4	20.0	55	22	3	9	29.4	. .	4.98	. .	. .	9	
169	Westboro' . . .	3.82	23.0	15.2	50	22	—2	9	30.6	. .	6.05	20	12	15	
172	Worcester (*a*) .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
185	" (*b*) .	35.3	. .	. .	57	1	.	. .	. .	. .	5.41	. .	. .	10	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	39.7	29.2	10.5	52	2	20	7	34.6	. .	4.25	3	. .	14	
202	Bristol	37.5	26.5	11.0	49	*j*	14	9	32.0	32.4	8.06	7	0	17	*b j*
210	Kingston (*a*) . .	37.8	23.5	14.3	50	2	15	*k*	30.6	. .	8.45	6	0	13	*k*
211	“ (*b*) . .	41.3	22.6	18.7	59	12	12	4, 8	32.0	31.5	7.31	10	0	15	*b*
204	Newport	42.9	28.0	14.9	53	30	18	8	35.4	. .	. .	. .	. .	. .	
205	Olneyville . . .	39.5	26.7	12.8	51	2	16	9	33.1	. .	. .	. .	0	. .	
207	Providence (*a*) .	37.7	26.2	11.5	51	22	16	9	32.0	32.0	8.14	8	. .	17	*c*
208	“ (*b*) .	38.0	22.9	15.1	50	24	13	9	30.4	. .	7.90	8	0	14	
212	“ (*c*) .	39.8	24.6	15.2	51	22	14	9	32.2	. .	7.86	8	. .	15	
	Connecticut.														
221	Canton	35.9	19.6	16.3	52	29	2	9	27.8	. .	9.29	18	16	10	
222	Colchester . . .	38.7	22.7	16.0	52	.22	11	9	30.7	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	35.7	22.1	13.6	49	22	8	4	28.9	. .	8.93	14	2	13	
237	Mansfield	35.8	20.5	15.3	51	22	8	9	28.6	28.8	8.52	11	T	14	*b*
226	Middletown . .	36.4	22.0	14.4	53	22	8	9	29.2	29.0	9.24	12	4	15	*b*
228	New Haven . .	37.5	24.0	13.5	51	22	10	4	30.8	. .	6.77	9	. .	15	
229	New London . .	38.9	24.6	14.3	51	22	13	9	31.8	. .	6.36	10	0	17	
250	N.Grosvenor Dale	37.4	22.7	14.7	50	22	8	9	30.0	29.6	8.67	. .	. .	15	*b*
230	Shelton	39.2	20.7	18.5	54	22	8	9	30.0	. .	7.36	. .	. .	. .	
231	Thompson . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
233	Voluntown . . .	38.9	22.1	16.8	52	22	6	9	30.5	31.4	8.20	10	. .	14	*b*
235	Waterbury . . .	35.0	19.5	15.5	50	22, 29	3	9	27.2	. .	10.06	19	. .	15	
	New York.														
251	Albany	32.1	17.6	14.5	48	22	—2	9	24.8	. .	6.12	. .	. .	19	
252	Boyd's Corner .	. .	. .	. .	52	22	7	10	. .	29.0	9.76	25	4	14	*a b*
253	Carmel	37.9	20.1	17.8	52	22	7	*l*	29.0	. .	9.71	22	. .	15	*l*
254	New York (*a*) .	. .	. .	. .	54	2	17	4	. .	33.8	6.12	10	0	14	*e*
255	“ “ (*b*) .	41.4	28.4	13.0	60	2	16	4	34.9	. .	5.73	. .	. .	16	
258	Poughkeepsie . .	36.0	14.2	21.8	54	22	—7	9	25.1	. .	6.58	. .	. .	16	
256	Setauket	39.5	28.1	11.4	53	2, 22	18	6	33.8	33.5	6.39	6	. .	13	*b*

STATIONS REPORTING PRECIPITATION ONLY.—JANUARY, 1891.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	6.09	. .	179	Robert's Dam, Mass.	6.14	6
40	Lake Village, “ . .	6.71	. .	159	Salem (*b*), “	6.21	16
44	Mine Falls, “ . .	6.36	. .	166	Waltham, “	5.71	. .
48	Pennichuck Station, “ . .	6.34	. .	171	Winchester, “	6.20	8
53	Weir's Bridge, “ . .	6.74	. .	203	Lonsdale, R. I.	7.61	12
55	Wolfboro', “ . .	6.44	. .	206	Pawtucket, “	6.57	13
75	Cornwall, Vt. . . .	3.60	18	247	Falls Village, Conn.	7.44	21
187	Ashland, Mass. . .	7.12	. .	224	Hartford (*b*), “	9.26	13
107	Boston (*b*), “ . . .	6.11	5	225	Lake Konomoc, “	8.81	. .
111	Chicopee, “ . . .	. .	. .	249	Lebanon “	9.03	8
112	Clinton, “ . . .	6.10	. .	227	New Hartford, “	8.62	18
119	Fiskdale, “ . . .	6.31	. .	246	No. Woodstock, “	. .	. .
130	Leominster, “ . . .	6.97	17	238	Stevenson “	10.16	10
138	Medford, “ . . .	6.32	. .	248	So. Manchester, “	7.14	. .
142	Mt. Nonotuck, “ . . .	7.94	24	232	Uncasville, “	7.42	7
143	Mystic Lake, “ . . .	6.26	. .	234	Wallingford, “	9.15	7
144	Mystic Pumping Sta., “ . . .	5.99	. .	245	W. Simsbury, “	7.94	16
150	Newburyport (*b*), “ . . .	. .	. .	257	S. E. Reservoir, N. Y.	8.88	. .
156	Randolph, “ . . .	7.30	13				

Notes.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—maximum on 12th, 22d, 30th. *h*—Maximum on 2d, 12th, 22d, 23d, 24th, 30th. *i*—26 days. *j*—Maximum on 2d, 12th, 22d. *k*—Minimum on 7th, 9th, 14th. *l*—minimum on 4th, 5th, 10th.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	31.4	13.5	17.9	42	25	—7	5	22.4	22.2	5.26	19	4	14	*c*
	Maine.														
2	Bar Harbor . .	34.8	16.9	17.8	48	26	—7	5	25.8	. .	4.68	10	1	15	
3	Belfast	. .	. .	. .	45	25	—8	5	. .	21.7	. .	12	5	. .	*a c*
14	Calais	29.6	11.8	17.8	49	25	—8	15	20.7	. .	3.91	14	12	12	
4	Eastport	29.6	16.0	13.6	45	26	—8	5	22.8	. .	3.13	. .	. .	16	
5	Fairfield	34.0	8.9	25.1	48	16	-25	15	21.5	. .	2.23	10	15	11	
7	Kent's Hill . . .	31.6	12.1	19.5	48	16	-11	5	21.8	. .	3.41	20	14	11	
8	Lewiston	31.7	10.7	21.0	51	16	—8	15	21.2	22.7	3.89	16	17	15	*b*
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
10	Orono	32.8	10.5	22.3	47	25	-17	15	21.7	22.1	2.93	. .	10	16	*b*
11	Petit Menan . .	. .	. .	. .	40	25, 26	—5	5	. .	25.6	. .	. .	. .	. .	*a b*
12	Portland	33.1	17.5	16.6	51	16	—4	5	25.3	. .	4.31	15	. .	15	
15	West Jonesport	. .	. .	. .	42	1	—3	5	. .	27.0	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	30.7	3.7	27.0	48	25	-27	15	17.2	. .	. .	. .	. .	. .	
34	Berlin Mills . .	31.5	4.8	26.7	49	25	-23	5, 15	18.2	. .	1.84	17	33	10	
37	Concord	34.9	17.0	17.9	52	16	—9	5	26.0	. .	3.54	20	18	12	
60	Grafton	36.4	9.7	26.7	51	25	-17	5	23.0	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	32.8	13.8	19.0	47	16	-16	5	23.3	23.7	2.40	17	19	15	*b*
58	" (*b*)	35.8	11.5	24.3	50	1	-18	5	23.6	23.5	2.56	16	15	12	*d*
59	Littleton	32.5	9.8	22.6	50	25	-17	5	21.2	21.3	2.15	14	12	12	*c*
42	Manchester (*b*)	37.0	17.2	19.8	54	25	-10	5	27.1	27.8	3.19	19	9	15	*b*
43	" (*c*)	36.2	18.2	18.0	56	25	—7	5	27.2	. .	3.26	19	9	14	
45	Nashua	37.3	17.1	20.2	58	25	—5	5	27.2	28.2	4.25	21	12	15	*c*
57	Newton	38.3	17.1	21.2	55	25	—7	5	27.7	. .	. .	. .	10	14	
47	North Conway .	33.8	9.1	24.7	54	16	-16	15	21.4	. .	4.02	18	. .	10	
49	Plymouth . . .	33.2	8.6	24.6	48	16	-12	5	20.4	. .	3.35	22	30	15	
51	Stratford	36.0	11.6	24.4	50	24	-22	5	23.8	. .	2.18	10	15	9	
52	Walpole	34.3	12.9	21.4	47	25	-11	5, 15	23.6	. .	2.95	20	. .	13	
54	West Milan . .	33.4	5.8	27.6	52	25	-28	5	19.6	. .	3.64	17	. .	12	
	Vermont.														
71	Brattleboro' (*a*)	35.6	16.8	18.8	50	24	—8	5	27.2	29.5	4.17	26	39	. .	*c*
72	" (*b*)	37.5	18.8	18.7	50	24	—4	5	28.2	27.1	. .	. .	. .	. .	*c*
73	Burlington . . .	34.1	16.8	17.3	51	25	—3	5	25.4	25.0	1.01	6	1	13	*c*
74	Chelsea	. .	. .	. .	43	16	-17	5	. .	19.0	2.86	18	29	16	*a b*
88	Hartland . . .	36.0	13.0	23.0	50	1	-13	5	24.5	. .	4.18	13	10	12	
77	Jacksonville . .	36.2	10.8	25.4	50	24	-16	15	23.5	22.7	5.25	30	22	14	*c*
78	Lunenburgh . .	31.9	14.4	17.5	47	24, 25	-15	12	23.1	23.1	1.95	14	18	12	*b*
82	Northfield . . .	30.4	11.4	19.0	51	25	-17	5	20.9	. .	2.13	. .	12	13	
87	Saxton's River .	34.3	8.4	25.9	51	16	-17	5	21.4	24.0	3.13	14	15	14	*b*
83	Strafford	. .	. .	. .	46	16, 25	-14	5	. .	22.4	3.30	27	20	11	*a b*
85	Vernon	. .	. .	. .	48	25	-10	5, 15	. .	26.2	2.76	27	. .	11	*a c*
89	Weathersfield Ct.	30.8	13.7	17.1	45	16, 24	-12	4	22.2	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	58	25	—5	15	. .	29.2	4.07	17	. .	. .	*b*
102	“ (*b*) . .	36.5	18.2	18.3	54	25	—6	15	27.4	27.5	3.84	16	2	13	*b*
177	“ (*c*) . .	37.6	17.6	20.0	54	25	—6	15	27.6	29.7	4.23	16	3	13	*e*
180	Andover . . .	36.6	20.8	15.8	59	25	—3	5	28.7	28.5	3.91	. .	. .	14	*b*
104	Blue Hill (sum't)	38.3	21.5	16.8	57	25	0	5	29.9	29.4	5.01	16	5	17	*d*
105	“ “ (base)	39.9	22.5	17.4	60	25	1	5	31.2	. .	5.39	. .	. .	. .	
174	“ “ (valley)	39.5	22.0	17.5	58	25	3	5	30.7	. .	4.97	. .	. .	. .	
106	Boston (*a*) . . .	39.5	24.4	15.1	62	25	2	5	32.0	. .	3.66	14	. .	15	
175	Brewster	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
108	Cambridge (*a*) .	37.5	20.7	16.8	59	25	1	5	29.1	. .	4.56	. .	. .	13	
109	“ (*b*) .	39.3	21.1	18.2	61	25	3	5	30.2	. .	4.61	. .	. .	15	
110	Chestnut Hill .	40.9	22.0	18.9	62	25	2	5	31.4	. .	5.29	9	. .	16	
182	Concord	36.8	17.6	19.2	60	25	1	5, 15	27.2	28.9	4.78	17	. .	16	*f*
114	Cotuit	39.0	25.9	13.1	51	21	6	5	32.4	. .	5.75	9	2	13	
116	Deerfield	. .	. .	. .	49	24, 25	—7	15	. .	27.5	. .	. .	. .	. .	*a b*
117	Dudley	37.9	19.6	18.3	59	25	1	5	28.8	. .	4.39	10	2	11	
120	Fitchburg (*a*) .	. .	. .	. .	54	25	—4	5	. .	27.5	4.56	23	7	17	*a b*
121	“ (*b*) .	36.6	17.6	19.0	56	25	—4	5	27.1	. .	4.19	24	10	16	
186	Florida	. .	. .	. .	47	24	—8	5	. .	22.4	4.82	27	. .	14	*a b*
122	Framingham . .	40.9	21.4	19.5	62	25	—1	9	31.1	. .	5.12	. .	. .	16	
123	Gilbertville . . .	37.6	19.3	18.3	56	25	1	28	28.4	. .	3.30	24	4	13	
124	Groton (*a*) . .	37.8	20.2	17.6	56	25	—3	5, 15	29.0	. .	4.08	26	15	16	
125	“ (*b*) . .	38.2	16.3	21.9	55	25	—6	5	27.2	. .	. .	. .	6	. .	
178	Kendal Green .	35.9	25.6	10.3	62	25	0	5	30.8	. .	5.18	21	. .	13	
127	Lake Cochituate	42.9	17.5	25.4	63	25	—5	15	30.2	. .	5.02	. .	. .	14	*g*
128	Lawrence . . .	38.5	18.5	20.0	58	25	—2	5	28.5	. .	4.55	18	3	13	
129	Leicester	36.0	17.8	18.2	56	25	—2	5	26.9	27.7	4.24	. .	. .	12	*d*
131	Long Plain . . .	37.4	26.6	10.8	52	25	5	5, 15	32.0	. .	7.16	2	0	18	*a*
133	Lowell (*b*) . .	37.0	20.2	16.8	58	25	—2	5	28.6	. .	4.83	. .	6	16	
136	“ (*c*) . . .	37.1	20.2	16.9	59	25	—4	5	28.6	. .	. .	. .	6	. .	
176	“ (*d*) . . .	38.2	20.6	17.6	60	25	—3	5	29.4	. .	. .	. .	. .	10	
134	Ludlow	36.5	17.1	19.4	53	25	—4	5, 15	26.8	. .	4.70	19	5	16	
135	Lynn	37.4	20.1	17.3	56	25	0	5	28.8	. .	5.12	. .	. .	12	
183	Mansfield	. .	. .	. .	61	25	1	5	. .	31.2	6.61	9	3	17	*a b*
139	Middleboro' . .	41.8	23.2	18.6	60	25	5	15	32.5	. .	5.69	6	T	17	
140	Milton	38.5	20.6	17.9	62	25	4	5	29.6	32.8	5.34	16	3	17	*b*
141	Monson	39.6	16.4	23.2	54	25	—3	15	28.0	. .	5.38	. .	. .	15	
173	Nahant	38.0	25.1	13.0	55	26	5	5	31.6	. .	. .	. .	. .	. .	
146	Nantucket . . .	39.4	28.9	10.5	51	25	10	5	33.8	. .	3.30	. .	. .	16	
147	New Bedford (*a*)	40.2	24.6	15.6	53	25	4	15	32.4	32.8	7.00	. .	. .	12	*b*
148	“ “ (*b*)	42.2	25.6	16.6	56	25	5	15	33.9	. .	5.78	5	. .	19	
149	Newburyport (*a*)	39.7	22.3	17.4	59	25	0	5	31.0	30.8	4.83	20	10	16	*b*
152	Northampton .	36.6	20.4	16.2	53	25	0	15	28.5	. .	4.47	. .	. .	10	
153	Plymouth . . .	. .	. .	. .	61	25	6	5	. .	35.2	5.32	. .	1	16	*a b*
154	Princeton . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
155	Provincetown .	40.0	26.1	13.9	49	25	8	5	33.0	. .	4.54	7	T	17	
160	South Hingham	. .	22.6	. .	. .	. .	—3	5	. .	. .	5.98	13	. .	16	
161	Springfield . . .	36.0	21.8	14.2	55	25	0	15	28.9	30.4	4.34	18	4	15	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	42.3	25.3	17.0	61	25	6	5, 15	33.8	33.5	5.67	3	T	16	*b*
164	“ (*b*) . .	41.8	24.3	17.5	61	25	6	5, 15	33.0	. .	5.85	8	0	19	
165	“ (*c*) . .	42.0	23.3	18.7	62	25	4	5, 15	32.6	. .	5.82	. .	. .	16	
184	“ (*d*) . .	39.6	20.9	18.7	61	25	3	15	30.2	30.8	5.37	9	2	15	*b*
181	Wakefield . . .	39.4	20.0	19.4	61	25	0	5	29.7	. .	4.60	19	5	12	
168	Wellesley . . .	40.8	21.4	19.4	53	25	0	10, 15	31.1	. .	6.45	. .	. .	11	
169	Westboro' . . .	39.1	22.4	16.7	55	25	1	5	30.8	. .	4.21	15	6	17	*a*
172	Worcester (*a*) .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
185	“ (*b*) .	40.1	20.9	19.2	56	25	2	5	30.5	31.5	4.36	16	. .	14	*b*

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	40.9	28.9	12.0	52	3	12	5	34.9	. .	3.97	T	. .	17	
202	Bristol	39.9	27.1	12.8	52	25	8	15	33.5	32.2	6.29	7	0	17	*b*
210	Kingston (*a*) . .	40.0	24.3	15.7	57	25	6	15	32.1	. .	7.20	8	0	15	
211	" (*b*) . .	42.2	21.1	21.1	58	25	5	15	31.6	32.1	7.26	8	T	16	*b*
204	Newport	44.4	26.9	17.5	60	24	10	5	35.6	. .	. .	. .	. .	. .	
205	Olneyville . . .	43.2	27.1	16.0	61	25	10	5, 15	35.2	. .	. .	. .	T	. .	
207	Providence (*a*) .	41.1	25.9	15.2	60	25	9	15	33.0	33.6	6.00	13	. .	16	*c*
208	" (*b*) .	41.1	22.8	18.3	56	24	5	15	32.0	. .	5.38	10	1	16	
212	" (*c*) .	40.8	23.8	16.9	58	25	6	15	32.3	. .	6.07	12	2	17	
	Connecticut.														
221	Canton	37.7	21.4	16.3	56	24	—5	5	29.6	. .	4.46	15	4	9	
222	Colchester . . .	40.2	21.9	18.3	58	25	7	5, 9	31.0	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	36.2	22.9	13.3	56	25	4	15	34.6	. .	4.12	10	. .	13	
237	Mansfield	38.2	20.0	18.2	58	25	2	15	29.1	29.3	5.64	14	2	15	*b*
226	Middletown . .	39.9	24.2	15.7	62	25	8	15	32.0	31.5	6.09	7	3	16	*b*
228	New Haven . .	39.1	25.5	13.6	54	25	8	5	32.3	. .	5.88	6	. .	17	
229	New London . .	39.5	25.3	14.2	53	18	7	15	32.4	. .	6.46	7	0	18	
250	N.Grosvenor Dale	38.5	22.4	16.1	57	25	5	15	30.4	30.7	5.45	. .	3	13	*b*
230	Shelton	37.5	21.1	16.4	60	25	7	27	29.3	. .	5.28	. .	. .	12	
231	Thompson . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
233	Voluntown . . .	40.4	23.4	17.0	57	25	6	15	31.9	32.1	7.39	. .	. .	17	*b*
235	Waterbury . . .	39.1	22.8	16.3	56	25	4	28	31.0	. .	5.65	. .	3	16	
	New York.														
251	Albany	35.2	21.3	13.9	54	25	—5	15	28.2	. .	4.14	. .	4	17	
252	Boyd's Corner .	. .	. .	. .	54	25	8	15	. .	33.2	6.00	15	. .	14	*a b*
253	Carmel	40.8	22.3	18.5	54	17	3	28	31.6	. .	5.91	12	. .	15	
254	New York (*a*) .	. .	. .	. .	59	17	14	5	. .	36.5	4.12	5	0	16	*e*
255	" " (*b*) .	44.2	30.8	13.4	61	25	13	5	37.5	. .	4.69	. .	. .	16	
258	Poughkeepsie . .	39.0	20.8	18.2	55	25	—1	15	28.9	. .	4.40	. .	. .	12	
256	Setauket	42.7	28.7	14.0	61	25	14	5	35.7	35.1	6.26	2	0	15	*b*

STATIONS REPORTING PRECIPITATION ONLY.—FEBRUARY, 1891.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.13	. .	179	Robert's Dam, Mass.	4.47	10
40	Lake Village, " . .	3.98	. .	159	Salem (*b*), "	4.90	19
44	Mine Falls, " . .	4.23	. .	166	Waltham, "	4.83	. .
48	Pennichuck Station, " . .	4.11	. .	171	Winchester, "	5.17	18
53	Weir's Bridge, " . .	3.94	. .	203	Lonsdale, R. I.	6.08	14
55	Wolfboro', " . .	4.22	. .	206	Pawtucket, "	5.40	8
75	Cornwall, Vt. . . .	2.25	12	247	Falls Village, Conn.	3.71	12
187	Ashland, Mass. . .	5.35	12	224	Hartford (*b*), "	5.10	11
107	Boston (*b*), " . . .	5.27	12	225	Lake Konomoc, "	7.30	. .
111	Chicopee, " . . .	3.72	16	249	Lebanon "	5.66	8
112	Clinton, " . . .	4.28	. .	227	New Hartford, "	4.13	11
119	Fiskdale, " . . .	3.41	24	246	No. Woodstock, "	. .	. .
130	Leominster, " . . .	3.69	22	248	So. Manchester, "	5.15	. .
138	Medford, " . . .	4.44	. .	238	Stevenson "	5.87	. .
142	Mt. Nonotuck, " . . .	5.63	19	232	Uncasville, "	7.25	. .
143	Mystic Lake, " . . .	4.98	8	234	Wallingford, "	6.73	7
144	Mystic Pumping Sta., " . . .	4.85	. .	245	W. Simsbury, "	3.96	12
150	Newburyport (*b*), " . . .	. .	. .	257	S. E. Reservoir, N. Y.	6.00	. .
156	Randolph, " . . .	6.14	12				

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A. M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (seeabove). *g*—Mean for 24 days.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	New Brunswick.														
1	St. John	35.3	21.9	13.4	48	23	0	3	28.4	28.5	3.16	11	0	9	*g*
	Maine.														
2	Bar Harbor . .	37.2	23.3	13.9	52	29	2	2	30.2	. .	5.18	9	0	12	
3	Belfast	. .	. .	. .	50	29	2	2, 3	. .	29.6	. .	8	0	. .	*a c*
14	Calais	37.5	21.9	15.6	50	*h*	1	2	29.7	. .	4.39	21	0	7	*h*
4	Eastport	34.6	23.4	11.2	46	13	2	2	29.0	. .	2.75	. .	. .	12	
5	Fairfield	38.3	18.2	20.1	51	29	-13	2	28.2	. .	4.75	15	2	11	
7	Kent's Hill . . .	34.4	19.7	14.7	49	29	—2	1, 2	27.0	. .	4.37	10	12	7	
8	Lewiston	37.3	19.1	18.2	54	29	—4	2	28.2	28.3	7.03	11	T	12	*b*
9	Mayfield	. .	. .	. .	45	24, 29	-10	2	. .	22.0	. .	. .	18	. .	*a b*
10	Orono	38.0	19.4	18.6	53	29	—5	3	28.7	28.9	5.20	. .	0	10	*b*
11	Petit Menan . .	. .	. .	. .	45	23, 24	15	2, 3	. .	30.3	. .	. .	. .	. .	*a b*
12	Portland	36.7	24.0	12.7	53	29	2	2	30.4	. .	5.48	5	. .	13	
15	West Jonesport	. .	. .	. .	55	29	4	3	. .	31.0	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	35.2	11.3	23.9	50	23	-22	2	23.2	. .	. .	. .	. .	. .	
34	Berlin Mills . .	35.6	12.8	22.8	49	23	-20	2	24.2	. .	4.91	21	14	11	
37	Concord	38.4	21.7	16.7	52	29	—4	2	30.0	. .	4.19	12	0	8	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	36.4	19.3	17.1	52	29	-14	2	27.8	28.6	2.32	12	T	8	*b*
58	" (*b*)	38.9	17.4	21.5	53	24	-19	2	28.2	29.1	2.02	8	. .	7	*d*
59	Littleton	38.3	15.7	22.6	55	22	-16	2	27.0	. .	2.30	10	T	8	
42	Manchester (*b*)	40.2	22.5	17.7	55	29	—1	2	31.4	30.8	4.30	11	T	11	*b*
43	" (*c*)	38.9	23.6	15.3	55	29	2	2	31.2	. .	3.94	10	T	15	
45	Nashua	41.0	22.7	18.3	56	29	1	2	31.8	31.9	5.43	15	0	11	*c*
57	Newton	39.2	22.2	16.9	52	29	0	3	30.7	. .	3.96	18	0	7	
47	North Conway .	38.6	17.1	21.5	51	29	—6	2	27.8	. .	6.22	22	. .	10	
49	Plymouth . . .	37.2	18.4	18.8	56	29	—6	3	27.8	. .	3.85	12	. .	11	
51	Stratford	41.5	16.1	25.4	60	29	-15	2	28.8	. .	2.04	10	T	8	
52	Walpole	36.6	19.6	17.0	51	28, 30	-11	2	28.1	. .	3.14	10	. .	8	
54	West Milan . .	39.0	11.2	27.8	58	11	-18	2	25.1	. .	3.70	17	. .	15	
	Vermont.														
71	Brattleboro' (*a*)	40.8	22.7	18.1	54	21	—4	2	30.2	30.2	3.89	13	T	. .	*c*
72	" (*b*)	39.7	25.0	14.7	54	29	1	2	32.4	31.6	. .	. .	. .	. .	*c*
73	Burlington . . .	38.9	22.1	16.8	60	23	—2	2	30.5	30.4	1.70	14	0	11	*c*
74	Chelsea	. .	. .	. .	46	23	-11	2	. .	23.7	3.21	16	. .	17	*a b*
88	Hartland . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3.72	10	T	8	
77	Jacksonville . .	40.6	16.3	24.3	58	8	-18	2	28.4	26.8	4.23	12	T	15	*c*
78	Lunenburgh . .	38.0	19.7	19.3	54	22	—7	9	28.8	28.9	2.16	16	10	13	*b*
82	Northfield . . .	33.4	16.1	17.3	49	29	-15	2	24.8	. .	2.68	. .	14	15	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	48	22, 29	-12	2	. .	27.5	3.20	22	12	9	*a b*
85	Vernon	. .	. .	. .	50	*i*	—8	2	. .	27.3	2.59	13	. .	5	*a c i*
89	Weathersfield Ct.	34.7	20.3	14.4	47	29	—5	1	27.5	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	60	23	-10	20	. .	3.33	3.14	7	. .	. .	*b*
102	" (*b*) . .	40.7	23.6	17.1	56	29	—1	2	32.3	32.0	2.89	12	0	8	*b*
177	" (*c*) . .	42.2	23.1	19.1	56	29	—1	2	32.7	33.7	2.99	9	0	9	*e*
180	Andover . . .	38.7	24.2	14.5	54	29	—3	2	31.4	31.0	7.87	18	0	8	*b*
104	Blue Hill (sum't)	38.9	24.4	14.5	51	22	—1	2	31.7	30.5	4.88	15	0	13	*d*
105	" " (base)	41.5	25.7	15.8	54	22	1	2	33.6	. .	5.06	. .	. .	. .	
174	" " (valley)	41.2	25.2	16.0	54	22	1	2	33.2	. .	4.85	. .	. .	. .	
106	Boston (*a*) . . .	40.0	27.3	12.7	55	13	3	2	33.6	. .	3.94	. .	. .	14	
108	Cambridge (*a*) .	39.3	25.3	14.0	51	13, 29	1	2	32.3	. .	4.90	. .	. .	10	
109	" (*b*) .	40.6	25.1	15.5	52	13, 29	1	2	32.8	. .	5.74	. .	. .	10	
110	Chestnut Hill .	42.3	25.3	17.0	54	29	0	2	33.8	. .	5.63	14	0	10	
182	Concord	40.4	22.5	17.9	55	29	1	2	31.4	31.2	5.70	21	. .	15	*f*
114	Cotuit	39.8	27.5	12.4	50	22, 23	8	2	33.6	. .	3.66	8	. .	7	
116	Deerfield	. .	. .	. .	56	29	—2	2	. .	32.2	. .	. .	. .	. .	*a b*
117	Dudley	40.3	23.0	17.3	56	30	—3	2	31.6	. .	5.32	10	0	11	
120	Fitchburg (*a*) .	. .	. .	. .	50	8, 29	1	2	. .	30.2	5.17	18	0	9	*a b*
121	" (*b*) .	39.9	22.1	17.8	53	28	—2	2	31.0	. .	5.15	14	0	8	
186	Florida	. .	. .	. .	50	29	—8	2	. .	26.3	0.98	6	2	9	*a b*
122	Framingham . .	41.8	24.1	17.7	51	13, 30	0	2	33.0	. .	6.63	. .	. .	10	
123	Gilbertville . . .	41.9	22.4	19.5	58	30	—2	2	32.2	. .	3.70	12	0	9	
124	Groton (*a*) . .	41.7	24.0	17.7	54	29	—1	2	32.8	. .	5.31	18	0	10	
125	" (*b*) . .	41.1	22.2	18.9	58	11, 29	—2	5	31.6	. .	. .	. .	0	. .	
178	Kendal Green .	39.4	28.2	11.2	56	29	0	2	33.8	. .	6.26	17	. .	8	
127	Lake Cochituate	45.1	22.3	22.8	60	29	0	2	32.7	. .	5.49	. .	. .	10	
128	Lawrence . . .	42.8	22.6	20.2	59	29	—1	2	32.7	. .	5.10	16	. .	12	
129	Leicester	38.3	21.3	17.0	50	29	—3	2	29.8	29.8	5.09	. .	0	11	*d*
131	Long Plain . . .	38.7	29.1	9.6	60	22	3	2	33.9	. .	7.34	6	0	13	*a*
133	Lowell (*b*) . .	40.2	24.2	16.0	56	29	2	2	32.2	. .	6.00	. .	0	10	
136	" (*c*) . . .	40.1	23.1	17.1	54	29	0	2	31.6	. .	. .	. .	0	. .	
176	" (*d*) . . .	41.8	23.9	17.9	56	29	0	2	32.8	. .	. .	. .	. .	8	
134	Ludlow	39.7	20.7	19.0	52	29	—7	2	30.2	. .	2.99	12	0	12	
135	Lynn	39.4	25.0	14.4	48	29	1	2	32.2	. .	4.51	. .	. .	10	
183	Mansfield	. .	. .	. .	55	22	0	2	. .	32.8	5.63	14	. .	12	*a b*
139	Middleboro' . .	42.1	25.3	16.9	61	22	4	2	33.7	. .	4.90	7	. .	10	
140	Milton	40.8	22.5	18.3	53	22	0	2	31.6	. .	4.58	14	. .	10	
141	Monson	42.9	20.0	22.9	57	23	—8	2	31.4	. .	3.01	. .	. .	13	
173	Nahant	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
146	Nantucket . . .	39.6	30.3	9.3	54	22	16	2	35.0	. .	1.86	. .	. .	12	
147	New Bedford (*a*)	41.5	25.5	16.0	58	23	4	2	33.5	33.8	5.81	6	. .	5	*b*
148	" " (*b*)	42.6	27.3	15.3	60	23	4	2	35.0	. .	5.61	5	0	11	
149	Newburyport (*a*)	41.2	25.5	15.7	50	29	2	2	33.4	32.9	4.51	18	T	12	*b*
152	Northampton .	40.6	25.7	14.9	57	29	1	2	33.2	. .	3.83	. .	. .	6	
153	Plymouth . . .	. .	. .	. .	55	13	7	2	. .	35.2	5.04	. .	. .	11	*a b*
154	Princeton . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
155	Provincetown .	40.1	28.7	11.4	50	22	16	2	34.4	. .	3.69	7	0	7	
160	South Hingham	. .	24.1	. .	. .	. .	1	2	. .	. .	5.78	12	0	12	
161	Springfield . . .	40.4	25.8	14.6	55	29	1	2	33.1	34.2	3.60	12	0	8	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	45.1	27.5	17.6	60	23	5	2	36.3	34.9	. .	. .	0	11	*b*
164	" (*b*) . .	44.5	26.6	17.9	60	22	5	2	35.5	. .	5.19	6	0	9	
165	" (*c*) . .	44.5	25.7	18.8	60	22	4	2	35.1	. .	5.93	. .	. .	13	
184	" (*d*) . .	43.1	24.8	18.3	60	23	2	2	33.9	33.7	4.99	8	0	9	*b*
181	Wakefield . . .	43.5	23.3	20.3	59	30	—2	2	33.4	. .	6.46	22	0	10	
168	Wellesley . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
169	Westboro' . . .	44.6	25.0	19.6	58	11, 29	0	2	34.8	. .	5.89	18	0	14	*a*
172	Worcester (*a*) .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
185	" (*b*) .	39.9	21.1	18.8	57	30	—1	2	30.5	. .	4.59	. .	. .	9	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	40.2	30.1	10.1	59	13	9	2	35.2	. .	2.42	T	. .	11	
202	Bristol	42.5	28.3	14.2	62	23	5	2	35.4	36.3	5.12	5	0	8	*b*
210	Kingston (*a*) . .	42.1	26.0	16.1	57	23	5	2	34.0	. .	6.96	6	0	7	
211	" (*b*) . .	43.1	26.4	16.7	59	25	1	2	34.8	32.8	7.97	6	0	5	*b*
204	Newport	46.7	30.0	16.7	60	30	9	2	38.4	. .	. .	. .	. .	. .	
205	Olneyville . . .	44.2	29.6	14.6	58	22	6	2	36.9	. .	. .	. .	0	. .	
207	Providence (*a*) .	43.2	28.4	14.8	58	22	6	2	35.8	34.6	5.55	8	. .	10	*c*
208	" (*b*) .	43.9	25.6	18.3	57	22	2	2	34.8	. .	5.07	8	0	9	
212	" (*c*) .	43.4	26.0	17.4	58	22	4	2	34.7	. .	6.36	8	0	9	
	Connecticut.														
221	Canton	40.9	22.9	18.0	58	8	—2	2	31.9	. .	5.10	6	0	6	
222	Colchester . . .	44.1	25.6	18.4	60	29	4	2	38.8	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	41.3	25.8	14.7	57	29	3	2	33.5	33.3	5.44	9	. .	9	*d*
237	Mansfield	41.1	23.5	17.6	54	29	0	2	32.3	31.9	4.42	7	0	12	*b*
226	Middletown . .	43.2	26.8	16.4	61	23	5	2	35.0	34.3	5.96	6	. .	11	*b*
228	New Haven . .	42.5	27.7	14.8	63	23	3	2	35.1	. .	3.68	4	. .	11	
229	New London . .	42.2	29.0	13.2	61	23	7	2	35.6	. .	3.99	4	0	12	
250	N.Grosvenor Dale	40.7	26.2	14.5	53	29	5	2	33.4	33.0	5.35	12	. .	9	*b*
230	Shelton	44.8	24.9	19.9	60	23	7	1, 2	34.8	. .	4.56	. .	. .	8	
231	Thompson . . .	38.1	26.2	11.9	53	29	—1	2	32.2	31.0	. .	. .	. .	. .	*a b*
233	Voluntown . . .	43.7	25.9	17.8	62	23	4	2	34.8	34.5	4.85	8	. .	9	*b*
235	Waterbury . . .	42.6	27.0	15.6	60	30	0	2	34.8	33.2	5.08	5	0	8	*b*
	New York.														
251	Albany	40.3	24.3	16.0	60	23	2	2	32.5	. .	3.12	. .	. .	15	
252	Boyd's Corner .	. .	. .	. .	63	23	5	2	. .	36.0	3.36	4	0	10	*a b*
253	Carmel	42.7	25.5	17.2	60	24	1	2	34.1	. .	3.39	4	. .	10	
254	New York (*a*) .	. .	. .	. .	58	24	9	2	. .	35.8	3.61	2	0	11	*e*
255	" " (*b*) .	44.7	30.8	13.9	61	30	9	2	37.8	. .	4 22	. .	. .	13	
258	Poughkeepsie . .	43.0	23.9	19.1	65	23	0	6	33.4	. .	2.88	. .	0	10	
256	Setauket	42.3	30.0	12.3	57	10	12	2	36.1	35.0	3.84	2	. .	10	*b*

STATIONS REPORTING PRECIPITATION ONLY.—MARCH, 1891.

No.	STATION.	Total Precip.	Snow-fall.	No	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.27	. .	179	Robert's Dam, Mass.	6.18	13
40	Lake Village, " . .	4.36	. .	159	Salem (*b*), "	4.92	21
44	Mine Falls, " . .	5.26	. .	166	Waltham, "	5.96	. .
48	Pennichuck Station, " . .	4.78	. .	171	Winchester, "	5.95	16
53	Weir's Bridge, " . .	4.45	. .	203	Lonsdale, R. I.	5.78	9
55	Wolfboro', " . .	4.16	. .	206	Pawtucket, "	5.41	9
75	Cornwall, Vt. . . .	1.91	8	247	Falls Village, Conn.	2.17	5
187	Ashland, Mass. . .	6.32	. .	224	Hartford (*b*), "	5.46	8
107	Boston (*b*), " . . .	5.35	11	225	Lake Konomoc, "	6.11	. .
111	Chicopee, " . . .	4.60	. .	249	Lebanon "	4.78	6
112	Clinton, " . . .	5.20	. .	227	New Hartford, "	5.50	8
119	Fiskdale, " . . .	2.86	. .	246	No. Woodstock, "	. .	. .
130	Leominster, " . . .	5.57	14	248	So. Manchester, "	3.61	. .
138	Medford, " . . .	5.35	. .	238	Stevenson "	4.16	4
142	Mt. Nonotuck, " . . .	2.66	9	232	Uncasville, "	5.72	6
143	Mystic Lake, " . . .	6.19	23	234	Wallingford, "	5.05	7
144	Mystic Pumping Sta.," . . .	5.68	. .	245	W. Simsbury, "	4.32	7
150	Newburyport (*b*), " . . .	5.05	. .	257	S. E. Reservoir, N. Y.	3.42	. .
156	Randolph, " . . .	5.50	13				

NOTES.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A. M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Mean temperature from bi-hourly readings. *h*—Maximum on 12th, 13th, 24th, 29th. *i*—Maximum on 22d, 23th, 29th, 31st.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									Mean.			Snowfall			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	45.1	32.7	12.4	61	28	21	1	38.9	38.6	2.55	3	0	8	*c*
	Maine.														
2	Bar Harbor	51.9	34.7	17.2	66	28	25	6	43.3	. .	2.87	4	0	10	
3	Belfast	. .	. .	. .	62	14	30	3	. .	42.7	. .	8	. .	. .	*a c*
14	Calais	51.3	32.7	18.6	64	14	23	1, 6	42.0	. .	2.95	10	. .	8	
4	Eastport	45.6	33.5	12.1	61	14	27	1	39.6	. .	1.37	. .	. .	11	
5	Fairfield	54.5	31.5	23.0	71	28	21	6	43.0	. .	1.97	6	0	11	
7	Kent's Hill	51.0	32.3	18.7	73	22	19	6	41.6	. .	1.85	12	0	9	*g*
8	Lewiston	52.6	32.4	20.2	72	22	19	6	42.5	41.7	2.89	8	0	10	*b*
9	Mayfield	. .	. .	. .	62	22	17	6	. .	38.4	3.75	12	. .	8	*a b*
10	Orono	50.2	32.3	17.8	69	28	22	6	41.3	41.3	3.26	. .	0	13	*b*
11	Petit Menan	. .	. .	. .	50	28	30	6	. .	39.7	. .	. .	. .	. .	*a b*
12	Portland	51.8	35.3	16.5	76	22	26	6	43.6	. .	1.89	. .	. .	10	
15	West Jonesport	. .	. .	. .	60	14	30	6	. .	39.7	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls	51.6	25.3	26.3	73	22	6	6	38.5	. .	. .	. .	. .	. .	
34	Berlin Mills	53.4	27.1	26.3	79	22	5	6	40.2	. .	3.01	16	. .	13	
37	Concord	56.4	35.9	20.5	80	18	18	6	46.2	. .	2.41	10	0	6	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*)	53.2	33.7	19.5	74	22	14	6	43.4	45.5	2.21	11	. .	6	*b*
58	“ (*b*)	56.7	32.3	24.4	80	22	. .	. .	44.5	44.5	2.39	11	. .	5	*d*
59	Littleton	52.8	30.2	22.6	77	22	21	1	41.5	41.2	2.21	8	. .	11	*c*
42	Manchester (*b*)	57.0	35.7	21.3	80	27	20	6	46.3	47.3	2.08	6	0	9	*b*
43	“ (*c*)	57.4	35.4	22.0	80	27	22	6	46.4	. .	1.63	7	0	8	
45	Nashua	60.0	35.5	24.5	81	27	20	6	47.7	47.7	2.95	6	. .	7	*c*
57	Newton	58.4	34.5	23.8	78	18	20	6	41.4	. .	2.44	4	0	5	
47	North Conway	56.2	30.0	26.2	82	22	14	6	43.1	. .	3.16	12	. .	7	
49	Plymouth	56.0	30.7	25.3	82	27	18	6, 7	43.4	41.9	2.31	6	0	6	*b*
51	Stratford	54.0	30.0	24.0	82	22	10	6	42.0	. .	1.84	7	. .	7	
52	Walpole	57.1	33.1	24.0	78	22	14	6	45.1	. .	3.12	20	. .	6	
54	West Milan	52.8	25.6	27.2	76	22	2	6	39.2	. .	2.92	13	. .	10	
	Vermont.														
71	Brattleboro' (*a*)	60.2	32.4	27.8	82	22	18	6	46.3	47.1	3.69	. .	. .	. .	*c*
72	“ (*b*)	59.5	37.1	22.4	80	22, 27	20	6	48.3	47.3	. .	. .	. .	. .	*c*
73	Burlington	55.5	36.1	19.4	78	27	23	5	45.8	44.8	2.77	10	. .	8	*c*
74	Chelsea	. .	. .	. .	70	22	18	5	. .	39.2	2.85	15	. .	12	*a b*
88	Hartland	57.9	32.9	25.0	80	27	13	6	45.4	. .	2.72	10	. .	5	
77	Jacksonville	56.8	29.2	27.6	74	18	6	7	43.0	41.8	3.73	23	0	11	*c*
78	Lunenburgh	50.9	34.2	16.7	75	27	16	6	42.6	43.0	2.18	8	. .	7	*b*
82	Northfield	51.6	31.0	20.7	78	22, 27	10	6	41.3	. .	2.41	. .	. .	10	
87	Saxton's River	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	. .	. .	. .	. .	. .	44.4	2.40	14	T	4	*b*
85	Vernon	. .	. .	. .	78	22	18	7	. .	45.2	3.37	18	. .	5	*a c*
89	Weathersfield Ct.	54.4	32.6	21.8	76	22	17	5	43.5	. .	. .	18	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	78	22	19	6	. .	48.5	3.57	7	. .	. .	*b*
102	" (*b*) . .	57.6	35.6	22.0	77	22, 30	18	6	46.6	46.9	2.74	11	0	7	*b*
177	" (*c*) . .	59.5	35.6	23.9	80	27	18	6	47.5	49.4	2.66	11	0	6	*e*
180	Andover . . .	57.9	37.6	20.3	79	27	24	6, 8	47.8	. .	2.53	. .	. .	7	
104	Blue Hill (sum't)	53.5	35.1	18.4	77	19	23	6	44.3	45.2	2.75	T	0	6	*d*
105	" " (base)	58.6	37.6	21.0	78	19	23	6	48.1	. .	2.77	. .	. .	. .	
174	" " (valley)	58.6	36.5	22.1	78	19	25	6	47.5	. .	2.91	. .	. .	. .	
106	Boston (*a*) . . .	56.8	39.3	17.5	78	27	27	6	48.0	. .	1.71	. .	. .	7	
108	Cambridge (*a*) .	56.2	39.1	17.1	75	18	26	6	47.6	. .	2.44	. .	. .	6	
109	" (*b*) .	57.1	38.9	18.3	76	19, 22	28	6	48.0	. .	2.72	. .	. .	6	
110	Chestnut Hill .	61.1	37.9	23.2	78	18	24	6	49.5	. .	2.98	. .	. .	8	
182	Concord	58.3	36.7	21.6	79	27	24	5	47.5	46.8	2.63	4	. .	7	*f*
114	Cotuit	51.8	35.0	16.8	72	19	24	6	43.4	. .	2.65	. .	. .	7	
116	Deerfield	. .	. .	. .	81	18, 27	27	6	. .	48.3	. .	. .	. .	. .	*a b*
117	Dudley	58.9	36.3	22.6	78	28	18	6	47.6	. .	1.91	5	0	7	*g*
120	Fitchburg (*a*) .	. .	. .	. .	74	27	28	*h*	. .	46.1	4.26	13	0	7	*a b h*
121	" (*b*) .	58.2	35.5	22.7	80	27	20	6	46.9	. .	4.17	13	0	6	
186	Florida	. .	. .	. .	80	27	18	5	. .	42.8	3.18	17	. .	5	*a b*
122	Framingham . .	60.8	37.2	23.6	77	*i*	24	6	49.0	. .	3.76	. .	. .	8	*i*
123	Gilbertville . . .	59.3	33.9	25.4	76	19	18	6, 7	46.6	. .	2.93	9	. .	5	
124	Groton (*a*) . .	59.3	36.2	23.0	78	14, 18	20	6	47.8	. .	3.29	12	0	7	
125	" (*b*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green .	56.6	42.6	14.0	76	14, 23	25	6	49.6	. .	3.64	. .	. .	5	
127	Lake Cochituate	65.5	36.0	29.5	83	19	17	6	50.8	. .	3.62	. .	. .	7	*g*
128	Lawrence . . .	61.8	35.1	26.7	84	27	23	7	48.4	. .	3.28	8	0	7	
129	Leicester	55.4	34.9	20.5	75	27	18	6	45.1	43.8	2.47	9	0	6	*d*
131	Long Plain . . .	53.7	39.2	14.5	70	19	20	6	46.4	. .	3.80	. .	0	9	*a*
133	Lowell (*b*) . .	57.4	36.6	20.7	76	18	23	6	47.0	. .	3.56	. .	0	6	
136	" (*c*) . . .	57.5	35.8	21.7	80	27	21	6	46.6	. .	. .	. .	. .	. .	
176	" (*d*) . . .	60.1	36.5	23.6	81	27	23	6	48.3	. .	. .	. .	. .	8	
134	Ludlow	57.1	33.3	23.8	78	27	14	6	45.2	. .	2.87	8	. .	8	
135	Lynn	54.9	37.0	17.9	74	19	24	6	46.0	. .	2.45	. .	. .	6	
183	Mansfield	. .	. .	. .	80	19	28	6	. .	46.6	3.07	. .	. .	9	*a b*
139	Middleboro' . .	58.9	35.1	23.7	79	19	19	6	47.0	. .	3.69	T	. .	8	
140	Milton	56.9	38.3	18.6	78	19	24	1	47.6	. .	2.91	T	. .	5	
141	Monson	61.6	33.9	27.7	83	19, 27	12	7	47.8	. .	3.07	. .	. .	7	
173	Nahant	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
146	Nantucket . . .	50.1	38.3	11.8	65	28	30	6	44.2	. .	1.47	. .	. .	9	
147	New Bedford (*a*)	55.4	36.5	18.9	74	19	25	6	46.0	45.8	2.78	. .	. .	10	*b*
148	" " (*b*)	56.3	37.2	19.1	77	19	25	6	46.8	. .	2.89	. .	0	12	
149	Newburyport (*a*)	58.4	37.1	21.3	79	14	27	6	47.8	47.5	2.10	1	0	10	*b*
152	Northampton .	56.9	39.0	17.8	78	22	23	9	48.0	. .	4.85	. .	. .	5	
153	Plymouth . . .	. .	. .	. .	79	19	32	6	. .	48.6	4.02	. .	. .	9	*a b*
154	Princeton . . .	. .	34.0	. .	. .	. .	16	6	. .	. .	1.75	. .	. .	4	
155	Provincetown .	53.3	37.3	16.0	70	19	25	2	45.3	. .	3.28	T	0	5	
160	South Hingham	. .	33.5	. .	. .	. .	18	6	. .	. .	3.12	. .	. .	7	
161	Springfield . . .	58.7	39.7	18.9	79	22, 27	25	6	49.2	50.4	2.55	8	. .	8	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	60.4	37.9	22.5	81	19	24	6	49.2	47.6	3.97	. .	0	10	*b*
164	" (*b*) . .	60.5	37.8	22.7	81	19	23	6	49.1	. .	3.31	. .	0	12	
165	" (*c*) . .	59.6	35.5	24.1	79	29	18	6	47.6	. .	4.05	. .	. .	8	
184	" (*d*) . .	59.0	37.7	23.4	80	19	21	6	48.4	47.0	4.09	T	0	7	*b*
181	Wakefield . . .	61.1	35.7	25.4	79	*j*	23	6, 7	48.4	. .	3.04	. .	. .	6	*j*
168	Wellesley . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
169	Westboro' . . .	61.0	38.2	22.8	81	19	22	6	49.6	. .	2.63	7	. .	7	*a*
172	Worcester (*a*) .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
185	" (*b*) .	59.4	32.1	27.3	76	28	22	6	45.8	. .	2.02	. .	0	6	*g*

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	50.3	39.5	11.8	67	19	30	6	44.9	. .	1.19	. .	. .	7	
202	Bristol	53.9	39.5	14.4	71	19	28	6	46.7	45.9	3.87	T	0	10	*b*
210	Kingston (*a*) . .	56.8	36.9	19.9	78	19	23	6	46.9	. .	4.20	T	0	8	
211	" (*b*) . .	57.4	35.4	22.0	76	19	20	*k*	46.4	44.9	4.70	0	0	8	*b k*
204	Newport	57.0	40.3	16.7	72	30	29	5	48.6	. .	. .	. .	. .	. .	
205	Olneyville . . .	59.6	41.5	18.1	76	19, 30	28	6	50.6	. .	. .	. .	. .	. .	
207	Providence (*a*) .	59.9	41.5	18.4	80	30	28	6	50.7	50.1	3.58	T	. .	8	*c*
208	" (*b*) .	60.3	38.1	22.2	80	27, 30	25	6	49.2	. .	3.38	T	0	10	
212	" (*c*) .	59.2	38.7	20.5	80	*l*	25	6	49.0	. .	3.78	. .	0	10	*l*
	Connecticut.														
221	Canton	58.9	35.5	23.4	79	14	15	6	47.2	. .	3.91	16	0	6	
222	Colchester . . .	59.2	37.8	21.4	79	30	22	6	48.5	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	60.5	38.8	21.7	81	27	24	6	49.6	. .	2.86	4	0	8	
237	Mansfield	56.6	36.4	20.2	77	27	20	6	46.5	46.1	3.51	6	. .	8	*b*
226	Middletown . .	60.0	38.6	21.4	80	19	24	7, 8	49.3	48.9	3.90	3	. .	9	*b*
228	New Haven . .	57.5	39.8	17.7	79	19	24	8	48.6	. .	2.35	. .	. .	8	
229	New London . .	55.5	39.8	15.7	75	19	27	6	47.6	. .	3.12	T	0	11	
250	N.Grosvenor Dale	57.6	38.9	18.7	77	19	22	6	48.2	48.2	3.58	. .	. .	7	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	52.9	40.2	12.7	76	30	20	7	46.5	45.4	. .	. .	. .	. .	*a b*
233	Voluntown . . .	58.1	37.5	20.6	77	30	22	6	47.8	47.8	5.31	. .	. .	7	*b*
235	Waterbury . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3.86	11	0	8	
	New York.														
251	Albany	57.9	39.3	18.6	81	27	25	7	48.6	. .	2.27	. .	. .	11	
252	Boyd's Corner .	. .	. .	. .	81	27	28	6	. .	50.7	3.77	13	0	8	*a b*
253	Carmel	60.4	39.5	30.9	81	27	20	5	50.0	. .	3.14	12	. .	8	
254	New York (*a*) .	. .	. .	. .	80	19	29	5	. .	49.7	2.38	. .	0	6	*e*
255	" " (*b*) .	60.8	43.3	17.5	80	19	28	5	52.0	. .	2.37	. .	. .	10	
258	Poughkeepsie . .	61.8	36.1	25.7	83	27	20	9	49.0	. .	2.16	3	0	10	
256	Setauket	58.4	41.1	17.3	78	19	31	*m*	49 7	49.0	3.22	. .	. .	8	*b*

STATIONS REPORTING PRECIPITATION ONLY.—APRIL, 1891.

No.	Station.	Total Precip.	Snow-fall.	No	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	2.55	. .	179	Robert's Dam, Mass.	2.89	. .
40	Lake Village, " . .	2.14	. .	159	Salem (*b*), "	2.18	. .
44	Mine Falls, " . .	2.75	. .	166	Waltham, "	3.14	. .
48	Pennichuck Station, " . .	2.55	. .	171	Winchester, "	2.80	. .
53	Weir's Bridge, " . .	1.46	. .	203	Lonsdale, R. I.	3.76	. .
55	Wolfboro', " . .	2.59	. .	206	Pawtucket, "	3.34	. .
75	Cornwall, Vt. . . .	1.94	10	247	Falls Village, Conn.	3.75	15
187	Ashland, Mass. . .	4.05	. .	224	Hartford (*b*), "	4.15	6
107	Boston (*b*), " . . .	2.53	. .	225	Lake Konomoc, "	3.86	. .
111	Chicopee, " . . .	3.10	. .	249	Lebanon "	3.81	2
112	Clinton, " . . .	2.90	. .	227	New Hartford, "	5.05	18
119	Fiskdale, " . . .	2.14	10	241	Newington, "	2.00	7
130	Leominster, " . . .	3.34	10	246	No. Woodstock, "	2.80	. .
138	Medford, " . . .	2.37	. .	248	So. Manchester, "	3.13	. .
142	Mt. Nonotuck, " . . .	3.13	. .	238	Stevenson "	2.86	. .
143	Mystic Lake, " . . .	3.50	. .	232	Uncasville, "	4.48	. .
144	Mystic Pumping Sta., " . . .	2.85	. .	234	Wallingford, "	3.87	. .
150	Newburyport (*b*), " . . .	1.64	. .	245	W. Simsbury, "	2.73	10
156	Randolph, " . . .	2.67	. .	257	S. E. Reservoir, N. Y.	2.76	. .

Notes.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily eradings of thermometer at 8 A. M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly eradings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Mean for 28 days. *h*—Minimum on 5th, 6th, 7th. *i*—Maximum on 18th, 22d, 27th. *j*—Maximum on 14th, 19th, 22d. *k*—Minimum on 6th, 7th 8th. *l*—Maximum on 19th, 27th, 30th. *m*—Minimum on 5th, 6th, 8th.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	New Brunswick.														
1	**St. John . . . .**	54.0	42.0	12.0	63	2	36	6	48.0	47.5	2.61	. .	. .	11	*c*
	Maine.														
2	**Bar Harbor . .**	58.8	40.6	18.2	70	28	32	6	49.7	. .	1.57	. .	. .	9	
3	**Belfast . . . . .**	. .	. .	. .	72	21	40	7	. .	50.5	. .	. .	. .	. .	*a c*
14	**Calais . . . . .**	61.4	39.8	21.6	75	28	29	7	50.6	. .	2.82	T	. .	8	
4	**Eastport . . . .**	55.0	40.3	14.7	70	28	34	5	47.6	. .	1.64	. .	. .	10	
5	**Fairfield . . . .**	64.6	38.7	25.9	79	31	24	6	51.6	. .	2.26	. .	. .	6	
7	**Kent's Hill . . .**	61.3	40.8	19.5	75	31	30	6	51.0	. .	2.18	. .	. .	9	
8	**Lewiston . . . .**	61.7	40.5	21.2	74	31	32	*g*	51.1	50.9	2.60	T	. .	13	*b g*
9	**Mayfield . . . .**	. .	. .	. .	77	28	24	6	. .	49.0	2.37	T	. .	9	*a b*
10	**Orono . . . . .**	62.0	40.3	21.7	76	31	30	6	51.2	51.2	2.81	. .	. .	12	*b*
11	**Petit Menan . .**	. .	. .	. .	58	*h*	35	16	. .	45.3	. .	. .	. .	. .	*a b h*
12	**Portland . . . .**	57.4	42.1	25.3	69	14	32	5	49.8	. .	3.47	. .	. .	16	
15	**West Jonesport**	. .	. .	. .	61	12	34	6	. .	46.5	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	**Berlin Falls . .**	63.2	33.1	30.1	80	10	23	7, 24	48.2	. .	. .	. .	. .	. .	
34	**Berlin Mills . .**	61.0	37.5	23.5	83	10	25	7, 24	49.2	. .	2.97	. .	. .	11	
37	**Concord . . . .**	67.4	43.0	24.4	88	10	32	5, 6	55.2	. .	2.34	. .	. .	6	
60	**Grafton . . . .**	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	**Hanover (*a*) . .**	64.0	41.5	22.5	79	10	29	6	52.8	53.0	1.90	T	. .	9	*b*
58	**" (*b*)**	67.0	38.3	28.7	82	30	27	6	52.6	52.2	1.97	. .	. .	6	*d*
59	**Littleton . . . .**	63.7	38.9	24.6	83	10	27	19	51.3	49.5	3.36	2	. .	9	*b*
42	**Manchester (*b*)**	67.0	44.0	23.0	88	10	32	19	55.5	54.9	2.56	T	. .	9	*b*
43	**" (*c*)**	67.0	43.4	23.6	88	10	32	6	55.2	. .	1.90	T	. .	7	
45	**Nashua . . . .**	69.4	42.9	26.5	90	10	32	19	56.1	55.8	2.13	. .	. .	6	*c*
57	**Newton . . . .**	66.0	41.7	24.3	82	11	29	5	53.8	. .	2.54	. .	. .	5	
47	**North Conway .**	66.5	38.2	28.3	88	10	29	18	52.4	. .	1.93	. .	. .	5	
49	**Plymouth . . .**	67.5	37.2	30.3	90	10	28	7, 24	52.4	50.6	2.28	T	. .	9	*b*
51	**Stratford . . . .**	68.0	39.2	28.9	87	10	28	19	53.6	. .	2.68	. .	. .	8	
52	**Walpole . . . .**	66.0	39.1	26.9	85	10	27	6	52.6	. .	2.31	. .	. .	5	
54	**West Milan . .**	65.8	34.4	31.4	84	10	24	24	50.1	. .	2.17	T	. .	10	
	Vermont.														
71	**Brattleboro' (*a*)**	70.3	42.6	27.7	90	10	27	6	56.4	55.1	2.27	. .	. .	. .	*c*
72	**" (*b*)**	68.2	43.9	24.3	87	10	29	6	56.0	55.2	. .	T	. .	. .	*c*
73	**Burlington . . .**	67.2	46.4	20.8	82	31	29	27	56.8	55.3	2.16	T	. .	8	*c*
74	**Chelsea . . . .**	. .	. .	. .	76	10	26	19	. .	48.3	2.91	1	. .	10	*a b*
90	**East Berkshire .**	63.8	37.4	26.3	83	10	23	19	50.6	. .	2.89	. .	. .	12	
88	**Hartland . . .**	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.24	. .	. .	9	
77	**Jacksonville . .**	66.9	37.6	29.3	85	10	24	19	52.2	52.2	2.67	T	. .	12	*c*
78	**Lunenburgh . .**	65.1	45.6	19.5	83	10	34	5	55.4	54.6	3.47	. .	. .	6	*b*
82	**Northfield . . .**	62.8	38.6	24.2	85	10	27	19	50.7	. .	2.46	. .	. .	13	
87	**Saxton's River .**	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	**Strafford . . . .**	. .	. .	. .	78	10	30	19	. .	53.8	3.10	1	. .	9	*a b*
85	**Vernon . . . . .**	. .	. .	. .	80	*i*	30	6, 19	. .	55.3	1.75	. .	. .	4	*a c i*
89	**Weathersfield Ct.**	64.2	40.1	24.1	83	10	27	7	52.2	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	84	10	30	19	. .	55.8	1.81	. .	. .	. .	*b*
102	" (*b*) . .	67.5	42.0	25.5	86	10	25	6	54.8	55.1	1.82	. .	. .	8	*b*
177	" (*c*) . .	69.2	42.0	27.2	87	10	25	6	55.6	57.3	1.97	T	. .	10	*e*
180	Andover . . .	64.8	45.0	19.8	88	10	30	6	54.9	53.6	2.37	. .	. .	9	*b*
104	Blue Hill (sum't)	64.7	43.7	21.0	85	10	29	6	54.2	52.6	2.39	. .	. .	7	*d*
105	" " (base)	66.0	45.1	20.9	86	10	30	6	55.5	. .	2.27	. .	. .	. .	
174	" " (valley)	66.9	42.3	24.6	87	10	26	6	54.6	. .	2.12	. .	. .	. .	
106	Boston (*a*) . . .	64.6	47.0	17.6	81	11	33	6	55.8	. .	1.56	. .	. .	8	
108	Cambridge (*a*) .	65.0	44.1	20.9	81	10	31	6	54.6	. .	2.10	. .	. .	7	
109	" (*b*) .	66.5	45.0	21.5	80	10, 11	33	6	55.8	. .	2.44	. .	. .	9	
110	Chestnut Hill .	70.1	44.4	25.7	88	10	30	6	57.2	. .	2.05	. .	. .	5	
182	Concord	67.4	43.2	24.2	87	10	28	6	55.3	54.0	1.63	. .	. .	7	*f*
114	Cotuit	61.4	43.8	17.6	74	22, 31	31	6	52.6	. .	2.62	. .	. .	8	
116	Deerfield	. .	. .	. .	88	10, 11	36	6	. .	57.3	. .	. .	. .	. .	*a b*
117	Dudley	69.4	42.9	26.5	87	11	27	6	56.2	. .	1.56	. .	. .	7	
120	Fitchburg (*a*) .	. .	. .	. .	82	10, 11	35	5	. .	55.6	1.79	. .	. .	7	*a b*
121	" (*b*) .	67.6	43.9	23.7	88	10	29	6	55.7	. .	1.76	. .	. .	5	
186	Florida	. .	. .	. .	85	10	25	5	. .	50.6	2.20	. .	. .	10	*a b*
122	Framingham . .	71.4	43.3	28.1	85	11	30	6, 19	57.3	. .	2.17	. .	. .	7	
123	Gilbertville . . .	69.3	41.8	27.5	84	11	26	6	52.5	. .	2.68	. .	. .	6	*j*
124	Groton (*a*) . .	68.5	44.2	24.3	84	11	30	6	56.4	. .	2.36	. .	. .	9	
125	" (*b*) . .	67.5	. .	. .	86	11	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green .	63.6	49.1	14.5	83	11	34	5, 6	56.4	. .	1.32	. .	. .	5	
127	Lake Cochituate	72.4	42.3	30.1	91	10	25	6	57.4	. .	1.67	. .	. .	7	
128	Lawrence . . .	70.2	43.9	26.3	89	10	30	6	57.0	. .	2.48	. .	. .	9	
129	Leicester	65.1	42.6	22.5	83	10	27	6	53.9	52.1	1.55	. .	. .	8	*d*
131	Long Plain . . .	63.1	49.5	13.6	81	10	28	6	56.3	. .	2.04	. .	. .	10	*a*
133	Lowell (*b*) . .	66.5	44.6	21.8	84	11	31	6	55.5	. .	2.29	. .	. .	11	
136	" (*c*) . . .	66.5	42.4	24.0	88	10	28	6	54.4	. .	. .	. .	. .	. .	
176	" (*d*) . . .	68.1	42.3	25.8	90	10	29	6	55.2	. .	. .	. .	. .	6	
134	Ludlow	67.4	39.4	28.0	83	10, 11	22	6	53.4	. .	1.55	. .	. .	8	
135	Lynn	63.1	43.5	19.6	79	22	29	6	53.3	. .	2.29	. .	. .	8	
183	Mansfield	. .	. .	. .	87	11	37	6	. .	56.0	1.03	. .	. .	9	*a b*
139	Middleboro' . .	67.5	40.6	26.9	82	10	24	4	54.0	. .	2.19	. .	. .	9	*j*
140	Milton	65.1	38.6	26.5	79	10	25	18	51.8	. .	2.03	. .	. .	7	
141	Monson	68.9	41.2	27.7	86	11	22	7	55.1	. .	1.86	. .	. .	9	
173	Nahant	58.4	45.4	13.0	74	22	32	6	51.9	. .	. .	. .	. .	. .	*j*
146	Nantucket . . .	57.3	45.4	11.9	70	10	37	6	51.4	. .	2.05	. .	. .	7	
147	New Bedford (*a*)	63.3	44.0	19.3	78	22	30	6	53.6	53.2	2.44	. .	. .	5	*b*
148	" " (*b*)	64.3	43.9	20.4	78	10, 22	31	6	54.1	. .	2.22	. .	. .	12	
149	Newburyport (*a*)	64.9	44.7	20.2	80	22	32	6	54.8	54.2	2.39	. .	. .	9	*b*
152	Northampton .	67.1	47.0	20.1	79	31	31	6	57.0	. .	2.32	. .	. .	6	
153	Plymouth . . .	. .	. .	. .	81	10	39	5	. .	56.4	1.99	. .	. .	7	*a b*
154	Princeton . . .	. .	42.0	. .	. .	. .	26	6	. .	. .	2.10	. .	. .	6	
155	Provincetown .	61.6	45.6	16.0	75	11	35	6	53.6	. .	1.69	T	. .	7	
160	South Hingham	. .	41.3	. .	. .	. .	26	6	. .	. .	1.90	. .	. .	7	
161	Springfield . . .	68.9	47.3	21.6	84	10, 11	31	6	58.1	58.9	2.18	. .	. .	7	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	69.8	44.6	25.2	85	10	28	6	57.2	55.6	2.56	. .	. .	11	*b*
164	" (*b*) . .	68.3	43.8	24.5	84	11	28	6	56.0	. .	2.60	. .	. .	8	
165	" (*c*) . .	68.2	41.7	26.5	84	10, 11	24	6	55.0	. .	2.56	T	. .	9	
184	" (*d*) . .	69.4	42.3	27.1	87	11	25	6	54.6	56.1	2.62	T	. .	9	*b*
181	Wakefield . . .	67.9	43.6	24.3	84	11	29	6	55.7	. .	2.35	. .	. .	8	
168	Wellesley . . .	68.8	43.0	25.8	87	10	28	19	55.9	. .	1.63	. .	. .	5	*j*
169	Westboro' . . .	68.5	45.4	23.1	92	11	28	6	57.0	. .	1.85	. .	. .	7	*a*
172	Worcester (*a*) .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
185	" (*b*) .	67.5	43.3	24.2	84	11	29	6	55.4	. .	. .	. .	. .	5	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	57.9	45.9	12.0	70	22	36	6	51.9	. .	1.41	. .	. .	9	
202	Bristol	62.9	46.5	16.4	75	22	35	6	54.7	54.1	1.93	. .	. .	10	*b*
210	Kingston (*a*) . .	64.7	43.6	21.1	81	10	29	6	54.2	. .	2.43	T	. .	8	
211	" (*b*) . .	65.0	43.5	21.5	79	10	30	6	54.2	53.1	1.76	. .	. .	7	*b*
204	Newport	63.5	46.6	16.9	74	31	34	6	55.0	. .	. .	. .	. .	. .	
205	Olneyville . . .	67.3	49.5	17.8	82	10	36	6	58.4	. .	. .	. .	. .	. .	
207	Providence (*a*) .	69.2	48.8	20.4	84	10	35	6	59.0	57.4	2.29	. .	. .	8	*c*
208	" (*b*) .	69.4	44.2	25.2	84	31	30	6	56.8	. .	2.40	. .	. .	9	
212	" (*c*) .	67.5	45.0	22.5	80	11	31	6	56.2	. .	2.40	. .	. .	8	
	Connecticut.														
221	Canton	69.6	42.8	26.8	86	11	27	6	56.2	. .	2.03	T	. .	5	
222	Colchester . . .	67.1	43.9	23.2	82	22	29	6	55.5	. .	. .	. .	. .	. .	*k*
223	Hartford (*a*) . .	68.8	45.1	23.7	85	10	29	6	56.9	55.0	2.43	. .	. .	9	*d*
237	Mansfield	66.1	42.6	23.5	83	11	28	6	54.4	54.1	2.50	. .	. .	8	*b*
226	Middletown . .	68.9	45.3	23.6	84	10	30	6	57.1	56.4	1.62	T	. .	5	*b*
228	New Haven . .	65.5	46.4	19.1	86	9	31	6	56.0	. .	1.92	. .	. .	5	
229	New London . .	62.9	46.5	16.4	79	22	31	6	54.7	. .	1.42	T	. .	11	
250	N.GrosvenorDale	65.4	43.7	21.7	81	11	30	6	54.5	55.8	1.91	. .	. .	7	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	63.3	47.9	15.3	81	10	30	6	55.6	53.4	. .	. .	. .	. .	*a b*
233	Voluntown . . .	67.8	42.2	25.6	81	10	29	6	55.0	55.3	2.03	. .	. .	7	*b*
235	Waterbury . . .	68.9	44.1	24.8	86	11	32	6	56.5	. .	1.84	. .	. .	9	
	New York.														
251	Albany	68.3	46.2	22.1	89	10	34	6	57.2	. .	1.69	. .	. .	12	
252	Boyd's Corner .	. .	. .	. .	90	10	38	5	. .	59.8	1.36	. .	. .	6	*a b*
253	Carmel	70.5	45.9	24.6	86	11	30	6	58.2	. .	1.30	T	. .	6	
254	New York (*a*) .	. .	. .	. .	82	22	32	6	. .	57.8	2.45	. .	. .	8	*e*
255	" " (*b*) .	68.4	51.4	17.0	84	10	38	5, 6	59.9	. .	3.10	. .	. .	11	
258	Poughkeepsie . .	70.3	41.3	29.0	88	9	30	4	55.8	. .	1.64	T	. .	7	
526	Setauket	66.1	48.1	18.0	83	9	35	6	57.1	56.0	1.24	. .	. .	5	*b*

STATIONS REPORTING PRECIPITATION ONLY.—MAY, 1891.

No.	STATION.	Total Precip.	Snow-fall.	No	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	2.71	. .	179	Robert's Dam, Mass.	1.70	. .
40	Lake Village, " . .	2.84	. .	159	Salem (*b*), "	1.67	. .
44	Mine Falls, " . .	2.24	. .	166	Waltham, "	1.93	. .
48	Pennichuck Station, " . .	2.14	. .	171	Winchester, "	2.37	. .
53	Weir's Bridge, " . .	2.66	. .	203	Lonsdale, R. I.	2.09	. .
55	Wolfboro', " . .	2.21	. .	206	Pawtucket, "	2.16	. .
75	Cornwall, Vt. . . .	2.40	. .	247	Falls Village, Conn.	1.73	T
187	Ashland, Mass. . .	1.85	. .	224	Hartford (*b*), "	1.99	. .
107	Boston (*b*), " . . .	2.69	. .	225	Lake Konomoc, "	1.36	. .
111	Chicopee, " . . .	1.82	. .	249	Lebanon, "	2.62	. .
112	Clinton, " . . .	2.08	. .	227	New Hartford, "	2.29	. .
119	Fiskdale, " . . .	2.23	. .	241	Newington, "	1.79	. .
130	Leominster, " . . .	2.34	. .	246	No. Woodstock, "	2.50	. .
138	Medford, " . . .	2.46	. .	248	So. Manchester, "	1.36	. .
142	Mt. Nonotuck, " . . .	1.97	T	238	Stevenson, "	1.13	. .
143	Mystic Lake, " . . .	2.55	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta., " . . .	2.31	. .	234	Wallingford, "	2.34	T
150	Newburyport (*b*), " . . .	2.25	. .	245	W. Simsbury, "	1.84	. .
156	Randolph, " . . .	1.50	. .	257	S. E. Reservoir, N. Y.	1.49	. .

NOTES.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7 + 2 + 9 + 9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A. M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Maximum on 5, 6, 7. *h*—Maximum on 27, 29, 31. *i*—Maximum on 10, 11, 14, 28, *j*—Mean for 30 days. *k*—Mean for 29 days.

Number.	STATION.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									MEAN.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	New Brunswick.														
1	St. John	63.2	50.7	12.5	78	13	44	4	56.9	56.0	3.20	. .	. .	14	*c*
	Maine.														
2	Bar Harbor . .	68.2	50.6	17.6	90	16	42	5	59.4	. .	3.73	. .	. .	11	
3	Belfast	. .	. .	. .	87	16	43	4	. .	59.0	3.33	. .	. .	9	*a c*
14	Calais	70.1	50.5	19.6	89	16	38	5	60.3	. .	3.72	. .	. .	10	
4	Eastport	62.2	48.0	14.2	79	13	41	5	55.1	. .	3.00	. .	. .	11	
5	Fairfield	76.1	50.8	25.3	93	16	36	5, 7	63.5	. .	2.03	. .	. .	11	
18	Farmington . .	80.0	49.9	30.1	97	11, 16	34	4	65.0	. .	3.93	. .	. .	14	
7	Kent's Hill . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3.05	. .	. .	9	
8	Lewiston	73.5	52.3	21.2	93	16	38	5	62.9	63.7	3.64	. .	. .	11	*b*
9	Mayfield	. .	. .	. .	91	16	37	4	. .	61.6	3.34	. .	. .	12	*a b*
10	Orono	72.2	51.9	20.3	93	16	34	5	62.1	62.7	3.20	. .	. .	10	*b*
11	Petit Menan . .	. .	. .	. .	74	13	42	*g*	. .	53.2	. .	. .	. .	. .	*a b g*
12	Portland	69.5	53.1	16.4	95	16	42	5	61.3	. .	2.77	. .	. .	11	
15	West Jonesport	. .	. .	. .	76	14	32	5	. .	55.4	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	74.2	44.5	29.7	88	11, 16	27	5, 6	59.4	. .	. .	. .	. .	. .	
34	Berlin Mills . .	73.6	47.0	26.6	90	11	. .	. .	60.3	. .	2.15	. .	. .	9	
37	Concord	73.8	53.3	20.5	96	16	38	5, 6	63.6	. .	3.32	. .	. .	10	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	75.3	51.1	24.2	91	16	34	5	63.2	63.5	3.55	. .	. .	5	*b*
58	" (*b*)	77.0	49.8	27.2	96	16	30	5	63.4	63.4	3.66	. .	. .	7	*d*
59	Littleton	74.6	49.4	25.2	89	15, 16	31	5	62.0	60.5	2.91	. .	.	10	*b*
42	Manchester (*b*)	75.3	54.3	21.0	95	16	38	5	64.8	65.2	3.77	. .	. .	9	*b*
43	" (*c*)	75.6	52.9	22.7	96	16	37	5	64.2	. .	3.58	. .	. .	8	
45	Nashua	77.6	51.5	26.1	98	16	35	5	64.5	64.8	3.33	. .	. .	7	*c*
57	Newton	71.0	47.8	23.3	97	16	36	5	59.4	. .	4.28	. .	. .	4	
47	North Conway .	76.7	49.9	26.8	95	16	34	5	63.3	. .	2.29	. .	. .	5	
49	Plymouth . . .	74.0	47.2	26.8	76	15	30	5, 6	60.6	60.3	2.86	. .	. .	9	*b*
51	Stratford	79.6	52.2	27.4	94	11	30	6	65.9	. .	1.79	. .	. .	8	
52	Walpole	76.5	52.1	24.4	92	16	35	6	64.3	. .	3.21	. .	. .	9	
54	West Milan . .	74.9	46.8	28.1	90	16	28	6	60.8	. .	2.33	. .	. .	7	
	Vermont.														
71	Brattleboro' (*a*)	80.3	52.7	27.6	96	15, 16	37	6	66.3	65.7	3.58	. .	. .	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	77.5	57.4	20.1	94	16	39	5	67.4	65.9	1.48	. .	. .	9	*c*
74	Chelsea	. .	. .	. .	81	16	40	4	. .	56.8	2.71	. .	. .	12	*a b*
90	East Berkshire .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
88	Hartland . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4.22	. .	. .	5	
77	Jacksonville . .	76.3	49.0	27.3	90	26	31	5	62.6	61.9	3.84	. .	. .	11	*c*
78	Lunenburgh . .	75.3	56.3	19.0	95	15	40	5	65.8	65.8	1.92	. .	. .	6	*b*
82	Northfield . . .	72.9	49.7	23.2	91	15, 16	30	5	61.3	. .	2.04	. .	. .	13	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	88	15, 16	38	5	. .	64.6	3.52	. .	. .	9	*a b*
85	Vernon	. .	. .	. .	95	16	44	5	. .	65.3	3.47	. .	. .	6	*a c*
89	Weathersfield Ct.	73.3	53.9	19.4	88	15	38	4	63.6	. .	. .	. .	. .	. .	

No	Station	Temperature									Precipitation				Notes
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
101	Amherst (*a*) . .	. .	. .	. .	91	16	36	5	. .	67.6	4.82	. .	. .	. .	*b*
102	" (*b*) . .	77 6	53 0	24.6	93	16	34	5	65.3	65.0	4.61	. .	. .	8	*b*
177	" (*c*) . .	78 5	51.9	26 6	94	16	34	5	65.2	66.6	4.75	. .	. .	9	*e*
180	Andover	72 9	54.6	18.3	94	16	44	4	63.8	63.4	4.66	. .	. .	8	*b*
104	Blue Hill (sum't)	72 1	53.5	18.6	93	16	42	5	62.8	62.6	4.30	. .	. .	9	*d*
105	" " (base)	72.9	54.1	18.8	93	16	40	5	63.5	. .	8 93	. .	. .	. .	
174	" " (valley)	75.1	52.0	23.0	94	16	33	5	63.5	. .	3.84	. .	. .	. .	
106	Boston (*a*) . . .	73 4	56.6	16.8	96	16	45	5	65.0	. .	3.06	. .	. .	6	
108	Cambridge (*a*) .	72.6	56.1	16.5	93	16	44	6	64.4	. .	3.57	. .	. .	8	
109	" (*b*) .	74.8	56.2	18.6	94	16	43	5	65.5	. .	4.01	. .	. .	9	
110	Chestnut Hill .	77 3	54.4	22.9	96	16	42	5	65.8	.	4.04	. .	. .	9	
182	Concord	75.0	53.0	22.0	96	16	37	5	64.0	63.4	3.43	. .	. .	10	*f*
114	Cotuit	70.3	54.1	16.2	88	16	38	5	62.2	. .	1.65	. .	. .	6	
116	Deerfield	. .	. .	. .	97	16	46	5	. .	68.1	. .	. .	. .	. .	*a b*
117	Dudley	78.7	59.4	19.3	93	16	44	4, 5	69.0	66.5	1.94	. .	. .	5	*b*
120	Fitchburg (*a*) .	. .	. .	. .	93	16	44	4	. .	65.3	3.48	. .	. .	11	*a b*
121	" (*b*) .	76.2	54.3	21.9	96	16	41	5	65.2	. .	3.44	. .	. .	10	
186	Florida (*a*) . .	78.8	42.2	36.6	98	26	31	5	60.5	. .	4.18	. .	. .	9	
188	" (*b*) . .	71.6	50.9	20.7	85	15, 16	36	5	61.2	. .	3.99	. .	. .	10	
122	Framingham . .	78 1	52.7	25 4	96	16	38	5	65.4	. .	3.37	. .	. .	9	
123	Gilbertville . . .	78 4	52.8	25.6	98	15	37	5	65.6	. .	4.93	. .	. .	7	
124	Groton (*a*) . .	75.7	55.0	20 7	94	16	41	5	65.4	. .	3.14	. .	. .	12	
189	Hoosac Tunnel .	80.2	49.9	30.3	97	16	33	5	65.0	. .	3.81	. .	. .	6	
178	Kendal Green .	74.3	59.5	14.8	96	16	46	5	66.9	. .	4.51	. .	. .	7	
127	Lake Cochituate	80.0	. .	. .	97	16	34	5	. .	. .	3.78	. .	. .	9	
128	Lawrence . . .	78.6	54.3	24 2	99	16	41	5	67.0	. .	3.30	. .	. .	11	
129	Leicester	74.4	51 2	23.2	90	16	38	27	62.8	61.9	2.53	. .	. .	7	*d*
131	Long Plain . . .	72.5	59.6	12.9	96	16	41	4	66.0	. .	1.80	. .	. .	7	*a*
133	Lowell (*b*) . .	75.9	55.1	20 8	92	16	40	5	65.5	. .	3.66	. .	. .	10	
136	" (*c*) . . .	75.0	52.6	22 3	95	16	37	5	63 8	. .	. .	. .	. .	. .	
176	" (*d*) . . .	80.6	52.4	28 2	98	15, 16	38	5	66.5	. .	. .	. .	. .	5	
134	Ludlow	76.1	49.9	26 2	94	16	33	5	63 0	. .	3.83	. .	. .	9	
135	Lynn	72.0	54.1	17 9	89	16	40	5	63.0	. .	3.83	. .	. .	9	
183	Mansfield	. .	. .	. .	97	16	45	4	. .	65.6	3.66	. .	. .	9	*a b*
139	Middleboro' . .	72.6	48.8	23 8	93	16	34	5	60.7	. .	1.85	. .	. .	7	
140	Milton	73.4	43 8	29.6	94	16	33	6	63.6	. .	3.74	. .	. .	10	
141	Monson	77.2	50 8	26.4	95	16	36	5	64.0	. .	2.84	. .	. .	7	
173	Nahant	70.1	55.4	14.8	93	16	45	5	62.8	63.4	. .	. .	. .	.	*d*
146	Nantucket . . .	66.0	53.7	12 3	76	8	43	18	59 8	. .	2.83	. .	. .	9	
147	New Bedford (*a*)	71 5	52 6	18.9	88	16	41	5	62.1	62.9	1.55	. .	. .	8	*b*
148	" " (*b*)	73.5	54.0	19.5	94	16	38	6	63 8	. .	1 63	. .	. .	9	
149	Newburyport (*a*)	75.0	54.6	20.4	96	16	43	6	64.8	64.3	3.79	. .	. .	10	*b*
152	Northampton .	80.0	57.3	22.7	98	16	43	5	68 6	. .	6.04	. .	. .	7	
153	Plymouth . . .	. .	. .	. .	94	16	45	4	. .	65.4	2.23	. .	. .	7	*a b*
154	Princeton . . .	. .	52.7	. .	. .	. .	41	4	. .	. .	4.99	. .	. .	7	
155	Provincetown .	70.9	54.4	16 5	92	16	39	5	62.6	. .	2.14	. .	. .	8	
190	Savoy	72.1	. .	. .	. .	. .	. .	.	. .	. .	4.07	. .	. .	9	*i*
160	South Hingham	. .	51.6	. .	. .	.	33	5	. .	. .	4.37	. .	. .	12	
161	Springfield . . .	78.0	57.5	20 5	97	16	40	5	67.7	68.9	3.50	. .	. .	8	*b*
162	Swampscott (*a*).	. .	. .		. .	. .	.	. .	. .	. .	. .	. .	. .	. .	
191	" (*b*).	72.8	54 5	18.3	96	16	43	5	63 6	62.8	. .	. .	. .	7	*b*
163	Taunton (*a*) . .	76.7	54.3	22 4	97	16	39	5	65 5	65.2	2 03	. .	. .	6	*b*
164	" (*b*) . .	76.4	55 4	21 0	98	16	39	5	65.9	. .	1.88	. .	. .	4	
165	" (*c*) . .	75.8	62.0	23 8	96	16	33	5	63 9	. .	2.13	. .	.	8	
184	" (*d*) . .	77 4	52 5	24 9	99	16	37	5	65.4	64 0	1.91	. .	.	6	*b*
181	Wakefield . . .	75 4	53.6	21 8	96	16	38	5	64.5	. .	4 09	. .	. .	7	
168	Wellesley . . .	77.4	53.7	23 7	94	16	37	5	65.6	. .	2.56	. .	. .	9	*h*
169	Westboro' . . .	77 8	55 8	22 0	99	16	40	5	66 8	. .	3.14	. .	. .	10	*a*
185	Worcester (*b*) .	. .	.	.	.	. .	. .	. .	. .	. .	. .	.	.	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	9	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	66.9	55.2	11.7	79	17	46	5	61.0	. .	1.83	. .	. .	8	
202	Bristol	70.9	55.8	15.1	81	17	44	6	63.4	63.3	1.25	. .	. .	7	*b*
210	Kingston (*a*) . .	75.1	53.9	21.2	94	16	42	5	64.5	. .	1.12	. .	. .	11	
211	" (*b*) . .	73.7	54.3	19.4	92	16	42	4, 5	64.0	63.6	0.70	. .	. .	7	*b*
204	Newport	73.6	56.1	17.5	85	16	44	4	64.8	. .	. .	. .	. .	. .	
205	Olneyville . . .	75.5	59.7	15.8	94	16	48	5	67.6	. .	. .	. .	. .	. .	
207	Providence (*a*) .	78.8	59.5	19.3	98	16	46	5	69.2	67.5	3.50	. .	. .	9	*c*
208	" (*b*) .	77.8	54.9	22.9	98	16	40	6	66.4	. .	3.19	. .	. .	10	
212	" (*c*) .	74.1	56.4	17.7	96	16	45	5	65.2	. .	3.55	. .	. .	9	
	Connecticut.														
221	Canton	80.1	54.2	25.9	97	16	37	5	67.2	. .	3.11	. .	. .	8	
222	Colchester . . .	76.7	54.8	21.9	93	16	38	5	65.8	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	77.5	54.9	22.6	95	16	37	5	66.2	. .	2.13	. .	. .	9	
237	Mansfield	75.2	53.2	22.0	92	16	39	6	64.2	63.9	1.84	. .	. .	10	*b*
226	Middletown . .	78.4	55.5	22.9	96	16	42	5	66.9	66.0	2.70	. .	. .	9	*b*
228	New Haven . .	75.7	56.6	19.1	93	16	45	5	66.2	. .	1.90	. .	. .	11	
229	New London . .	72.6	56.3	16.3	88	16	45	5	64.4	. .	2.81	. .	. .	12	
250	N.Grosvenor Dale	79.4	56.8	22.6	99	16	38	5	68.1	68.7	3.10	. .	. .	7	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	70.6	58.5	12.1	89	16	43	5, 6	64.5	61.8	. .	. .	. .	. .	*a b*
233	Voluntown . . .	77.5	53.3	24.2	94	16	39	5	65.4	65.4	1.97	. .	. .	7	*b h*
235	Waterbury . . .	78.6	56.0	22.6	98	16	42	5, 8	67.3	. .	1.14	. .	. .	9	
	New York.														
251	Albany	78.7	58.0	20.7	95	16	42	5	68.3	. .	2.65	. .	. .	12	
252	Boyd's Corner .	. .	. .	. .	98	16	53	7	. .	69.8	1.81	. .	. .	8	*a b*
253	Carmel	79.9	55.9	24.0	97	16	42	6, 8	67.9	. .	1.83	. .	. .	6	
254	New York (*a*) .	. .	. .	. .	97	16	54	7	. .	71.4	1.48	. .	. .	8	*e*
255	" " (*b*) .	78.3	60.8	17.5	94	15	51	7	69.6	. .	1.18	. .	. .	11	
258	Poughkeepsie . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
526	Setauket	76.1	57.7	18.4	93	16	49	6	66.9	65.9	1.84	. .	. .	7	*b*

STATIONS REPORTING PRECIPITATION ONLY.—JUNE, 1891.

No.	STATION.	Total Precip.	Snow-fall.	No	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	2.16	. .	179	Robert's Dam, Mass.	4.39	. .
40	Lake Village, " . .	2.42	. .	159	Salem (*b*), "	4.00	. .
44	Mine Falls, " . .	3.42	. .	166	Waltham, "	4.02	. .
48	Pennichuck Station, " . .	3.62	. .	171	Winchester, "	4.33	. .
53	Weir's Bridge, " . .	3.49	. .	203	Lonsdale, R. I.	4.10	. .
55	Wolfboro', " . .	1.87	. .	206	Pawtucket, "	4.00	. .
75	Cornwall, Vt. . . .	3.60	. .	247	Falls Village, Conn.	3.62	. .
187	Ashland, Mass. . .	4.17	. .	224	Hartford (*b*), "	2.08	. .
107	Boston (*b*), " . . .	2.86	. .	225	Lake Konomoc, "	2.71	. .
111	Chicopee, " . . .	3.10	. .	249	Lebanon, "	2.29	. .
112	Clinton, " . . .	3.25	. .	227	New Hartford, "	3.62	. .
119	Fiskdale, " . . .	3.07	. .	241	Newington, "	2.25	. .
130	Leominster, " . . .	4.58	. .	246	No. Woodstock, "	2.50	. .
138	Medford, " . . .	4.20	. .	248	So. Manchester, "	2.08	. .
142	Mt. Nonotuck, " . . .	3.49	. .	238	Stevenson, "	3.03	. .
143	Mystic Lake, " . . .	4.53	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta., " . . .	4.09	. .	234	Wallingford, "	1.39	. .
150	Newburyport (*b*), " . . .	3.64	. .	245	W. Simsbury, "	2.84	. .
156	Randolph, " . . .	3.20	. .	257	S. E. Reservoir, N. Y.	2.30	. .

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7 + 2 + 9 + 9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Minimum on 3, 4, 5, *h*—Mean for 28 days; *i*—Mean for 27 days.

		TEMPERATURE.									PRECIPITATION.				
									Mean.			Snowfall.			
Number.	Station.	Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	Reference letter to Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	64.1	53.4	10.7	75	18	49	3	58.7	58.5	3.32	. .	. .	7	*c*
	Maine.														
2	Bar Harbor . .	73.7	54.6	19.1	86	14	49	2	64.2	. .	4.36	. .	. .	10	
3	Belfast	. .	. .	. .	81	15	54	4	. .	63.2	4.16	. .	. .	8	*a c*
20	Bethel	76.5	49.9	26.6	92	16	38	28	63.2	. .	3.71	. .	. .	9	*g*
14	Calais	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
19	East Machias .	70.6	52.7	17.9	78	14	48	23	61.7	. .	4.29	. .	. .	9	
4	Eastport	65.4	50.2	15.2	77	10	46	4	57.8	. .	2.61	. .	. .	12	
5	Fairfield	77.9	54.0	23.9	93	14	41	10	65.9	. .	4.63	. .	. .	12	
18	Farmington . .	83.1	51.7	31.4	101	14	39	28	67.4	. .	3.42	. .	. .	13	*h*
7	Kent's Hill . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
8	Lewiston	76.4	56.8	19.6	92	14	48	28	66.6	66.8	5.27	. .	. .	16	*b*
9	Mayfield	. .	. .	. .	88	14	45	7	. .	64.4	5.11	. .	. .	15	*a b*
10	Orono	76.4	55.1	21.3	91	14	47	10	65.8	65.2	3.56	. .	. .	11	*b*
11	Petit Menan . .	. .	. .	. .	72	27	48	2, 24	. .	58.8	. .	. .	. .	. .	*a b*
12	Portland	72.5	57.5	15.0	91	14	52	28	65.0	. .	4.78	. .	. .	14	
15	West Jonesport	. .	. .	. .	78	17	48	2	. .	57.5	. .	. .	. .	9	*a b*
	New Hampshire.														
33	Berlin Falls . .	77.1	47.4	29.7	92	14	35	28	62.3	. .	. .	. .	. .	. .	
34	Berlin Mills . .	76.8	49.2	27.6	90	14	36	28	63.0	. .	2.99	. .	. .	8	
37	Concord	75.8	57.1	18.8	90	13	46	28	66.4	. .	3.34	. .	. .	11	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	75.6	55.9	19.7	86	14	43	7	65.8	66.7	4.34	. .	. .	9	*b*
58	" (*b*)	77.8	52.7	25.1	91	13	41	8	65.2	66.1	4.64	. .	. .	8	*d*
59	Littleton	75.7	52.2	23.5	89	13, 14	39	28	64.0	62.2	5.72	. .	. .	12	*b*
42	Manchester (*b*)	77.9	57.8	20.1	94	14	45	28	67.8	68.5	3.42	. .	. .	11	*b*
43	" (*c*)	77.5	56.6	20.9	90	14	46	28	67.0	. .	3.14	. .	. .	10	
45	Nashua	79.8	56.1	23.7	93	13	45	28	68.0	67.7	3.28	. .	. .	11	*c*
57	Newton	78.4	55.5	22.9	90	13, 14	45	28	67.0	. .	2.70	. .	. .	7	
47	North Conway .	77.3	51.7	25.4	94	14	40	28	64.6	. .	5.39	. .	. .	9	
49	Plymouth . . .	79.8	49.9	29.9	92	13, 14	38	7	64.8	62.1	5.58	. .	. .	11	*b*
51	Stratford	81.3	54.8	26.5	94	14	41	10	68.0	. .	4.88	. .	. .	11	
52	Walpole	76.8	54.0	22.8	88	14	44	10	65.4	. .	4.93	. .	. .	12	
54	West Milan . .	76.3	48.1	28.2	89	13	36	28	62.2	. .	4.79	. .	. .	11	
	Vermont.														
71	Brattleboro' (*a*)	80.0	55.6	24.4	93	13	43	28	67.8	66.2	6.26	. .	. .	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	77.7	58.5	19.2	90	13	51	27	68.1	67.8	3.48	. .	. .	15	*c*
74	Chelsea	. .	. .	. .	78	14	42	28	. .	59.0	4.20	. .	. .	14	*a b*
90	East Berkshire	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
88	Hartland . . .	75.6	51.0	24.6	88	13	40	28	63.3	. .	4.27	. .	. .	15	
77	Jacksonville . .	77.3	49.2	28.1	88	11, 17	39	28	63.2	62.3	7.45	. .	. .	13	*c*
78	Lunenburgh . .	77.0	59.0	18.0	91	14	50	28	68.0	67.8	5.03	. .	. .	13	*b*
82	Northfield . . .	74.2	51.9	22.2	87	14	40	7	63.0	. .	3.20	. .	. .	16	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	84	13, 14	48	7	. .	65.7	3.85	. .	. .	9	*a b*
85	Vernon	. .	. .	. .	90	14	52	31	. .	65.1	4.84	. .	. .	8	*a c*
89	Weathersfield Ct.	74.1	54.5	19.6	87	14	45	31	64.3	. .	. .	. .	. .	. .	

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
192	Adams	74.6	56.4	18.2	85	13, 14	45	10, 28	65.0	. .	. .	. .	. .	. .	
101	Amherst (*a*)	. .	. .	. .	89	13	43	28	. .	66.4	4.79	. .	. .	. .	*b*
102	“ (*b*)	76.7	55.1	21.6	89	13	42	28	65.9	66.2	5.09	. .	. .	10	*b*
177	“ (*c*)	78.4	54.2	24.2	90	13	42	28	66.3	68.2	5.28	. .	. .	9	*e*
180	Andover	77.1	58.3	18.8	87	13, 14	50	28	67.7	66.3	3.41	. .	. .	11	*b*
104	Blue Hill (sum't)	73.9	57.9	16.0	86	13	52	28	65.9	65.3	2.80	. .	. .	12	*d*
105	“ “ (base)	75.2	58.2	17.0	87	13	51	28	66.7	. .	2.68	. .	. .	. .	
174	“ “ (valley)	77.7	56.2	21.5	89	13	45	28	66.9	. .	3.36	. .	. .	. .	
106	Boston (*a*)	76.5	61.4	15.1	90	13	56	28	69.0	. .	3.73	. .	. .	10	
108	Cambridge (*a*)	75.5	59.2	16.3	87	13	51	29	67.4	. .	2.93	. .	. .	7	
109	“ (*b*)	78.7	60.4	18.3	88	13, 14	50	31	69.6	. .	3.06	. .	. .	8	
110	Chestnut Hill	79.0	58.1	20.9	90	13	49	28	68.6	. .	3.44	. .	. .	10	
182	Concord	78.0	56.2	21.8	90	13	45	28	67.1	65.8	2.97	. .	. .	11	*f*
114	Cotuit	73.8	59.8	14.0	84	25	51	28	66.8	. .	2.19	. .	. .	10	
116	Deerfield	. .	. .	. .	92	13	51	31	. .	68.0	. .	. .	. .	. .	*a b*
117	Dudley	78.0	60.8	17.2	89	12, 13	54	31	69.4	66.5	2.09	. .	. .	8	*b*
193	Egg Rock, Nahant	71.4	58.6	12.8	82	13	54	28	65.0	. .	. .	. .	. .	. .	
120	Fitchburg (*a*)	. .	. .	. .	87	13	50	31	. .	67.6	3.95	. .	. .	10	*a b*
121	“ (*b*)	76.4	56.7	19.7	90	13	47	28	66.6	. .	3.52	. .	. .	10	
186	Florida (*a*)	74.3	41.9	32.4	86	15	. .	. .	58.1	61.2	8.82	. .	. .	15	*b*
188	“ (*b*)	72.4	51.8	20.6	85	15	43	26, 27	62.1	. .	7.59	. .	. .	12	
122	Framingham	79.4	55.5	23.9	89	13	46	28	67.4	. .	3.07	. .	. .	10	
123	Gilbertville	78.6	54.4	24.2	88	14	42	28	66.5	. .	5.22	. .	. .	13	
124	Groton	77.6	58.2	19.4	88	13, 14	50	10	67.9	. .	3.47	. .	. .	12	
189	Hoosac Tunnel	81.1	49.6	31.5	96	14	. .	. .	65.4	. .	6.34	. .	. .	10	
178	Kendal Green	78.0	63.0	15.0	90	15	48	28	70.5	. .	2.51	. .	. .	7	
127	Lake Cochituate	80.9	55.0	25.9	92	13	41	28	68.0	. .	2.99	. .	. .	10	
128	Lawrence	82.9	58.8	24.1	100	13	49	28	70.8	. .	3.20	. .	. .	9	
129	Leicester	74.7	47.1	27.6	85	13	40	27	61.9	64.6	3.56	. .	. .	7	*d*
131	Long Plain	74.2	62.9	11.3	82	13	54	9	68.5	. .	2.73	. .	. .	9	*a*
133	Lowell (*b*)	77.7	59.3	18.3	88	17	50	28	68.5	. .	3.17	. .	. .	11	
136	“ (*c*)	77.3	56.8	20.5	90	13	46	28	67.0	. .	. .	. .	. .	. .	
176	“ (*d*)	80.2	57.1	23.1	92	13, 14	45	28	68.6	. .	. .	. .	. .	6	
134	Ludlow	75.5	53.2	22.3	86	13	42	28	64.3	. .	5.84	. .	. .	13	
135	Lynn	73.6	57.2	16.4	85	14	52	10, 28	65.4	. .	3.38	. .	. .	7	
183	Mansfield	. .	. .	. .	91	13	52	27, 31	. .	67.6	3.86	. .	. .	16	*a b*
139	Middleboro'	76.7	54.7	22.1	87	13	41	28	65.7	. .	2.19	. .	. .	8	*h*
140	Milton	75.8	51.2	24.6	87	14	38	28	63.5	. .	3.39	. .	. .	9	
141	Monson	77.9	54.7	23.2	89	13	44	28	66.3	. .	4.88	. .	. .	12	
173	Nahant	71.6	58.9	12.7	83	13	54	28	65.2	. .	3.15	. .	. .	6	
146	Nantucket	70.2	58.9	11.3	78	17	48	2	64.6	. .	3.16	. .	. .	9	
147	New Bedford (*a*)	73.4	58.7	14.7	80	25	51	1	66.0	65.6	1.97	. .	. .	9	*b*
148	“ “ (*b*)	74.7	57.9	16.8	82	13, 25	46	1	66.3	. .	2.17	. .	. .	15	
149	Newburyport (*a*)	77.8	58.1	19.7	90	13	50	28	68.0	67.1	3.67	. .	. .	12	*b*
152	Northampton	80.5	60.4	20.1	93	15	49	5	70.4	. .	5.52	. .	. .	8	
153	Plymouth	. .	. .	. .	84	14	59	9	. .	68.7	2.55	. .	. .	10	*a b*
154	Princeton	74.4	55.7	18.7	84	13	48	28	65.0	. .	3.68	. .	. .	11	
155	Provincetown	75.1	60.1	15.0	83	17	52	1	67.6	. .	2.82	. .	. .	6	
190	Savoy	72.6	47.8	24.8	83	15	. .	. .	60.2	. .	3.45	. .	. .	9	
160	South Hingham	. .	55.0	. .	. .	. .	44	28	. .	. .	3.21	. .	. .	12	
161	Springfield	78.4	60.8	17.5	90	13, 14	50	28	69.6	69.6	6.37	. .	. .	12	*b*
162	Swampscott (*a*)	73.2	58.7	14.4	84	13	51	28	66.0	65.4	2.81	. .	. .	9	*b*
191	“ (*b*)	73.6	57.3	16.3	84	13	50	28	65.4	64.4	. .	. .	. .	12	*b*
163	Taunton (*a*)	77.6	57.8	19.7	88	13	47	28	67.7	66.4	2.46	. .	. .	12	*b*
164	“ (*b*)	79.7	57.3	22.4	88	13	46	28	68.5	. .	2.36	. .	. .	10	
165	“ (*c*)	77.8	55.5	22.3	88	13	40	28	66.6	. .	2.85	. .	. .	12	
184	“ (*d*)	79.4	56.7	22.6	90	13, 17	44	28	68.0	66.5	2.17	. .	. .	10	*b*
181	Wakefield	79.6	61.2	18.4	92	13	44	5	70.4	. .	2.95	. .	. .	8	
168	Wellesley	75.1	55.1	20.0	86	13	42	11	65.1	. .	3.54	. .	. .	15	
169	Westboro'	81.6	58.2	23.4	94	13	49	28	69.9	. .	2.87	. .	. .	9	*a*

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	9	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	69.7	60.2	9.5	79	21	53	3	65.0	. .	3.38	. .	. .	13	
202	Bristol	73.9	61.3	12.6	82	21	52	1	67.6	67.1	2.29	. .	. .	11	*b*
210	Kingston (*a*) . .	75.4	57.4	18.0	84	13	48	3	66.4	. .	2.29	. .	. .	10	
211	" (*b*) . .	74.4	58.5	15.9	83	13	49	1, 3	66.4	65.6	1.71	. .	. .	6	*b*
204	Newport	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
205	Olneyville . . .	75.8	62.9	12.9	86	13	56	28	69.4	. .	. .	. .	. .	. .	
207	Providence (*a*) .	80.4	63.2	17.2	90	13	56	28	71.8	70.4	3.31	. .	. .	12	*c*
208	" (*b*) .	79.6	58.4	21.2	90	13	49	28	69.0	. .	4.51	. .	. .	13	
212	" (*c*) .	76.6	59.6	17.0	87	13	51	1	68.1	. .	3.87	. .	. .	9	
	Connecticut.														
221	Canton	80.0	55.8	24.2	92	14	47	12	67.9	. .	5.21	. .	. .	10	
222	Colchester . . .	71.6	57.2	18.9	84	13	46	28	66.6	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
237	Mansfield	74.6	56.2	18.4	85	13	48	1	65.4	65.2	4.96	. .	. .	13	*b*
226	Middletown . .	78.1	58.2	19.9	88	13	49	28	68.1	67.0	4.98	. .	. .	12	*b*
228	New Haven . .	76.3	59.0	17.3	86	13	49	28	67.6	. .	4.52	. .	. .	16	
229	New London . .	73.3	59.8	13.5	84	21	52	1	66.6	. .	3.37	. .	. .	18	
250	N. Grosvenor Dale	80.3	61.7	18.6	90	25	52	11	71.0	72.8	3.91	. .	. .	11	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	71.9	61.5	10.4	83	13	52	28	66.7	65.2	. .	. .	. .	. .	*a b*
233	Voluntown . . .	77.0	57.1	19.9	84	13	42	28	67.0	67.0	2.56	. .	. .	10	*b g*
235	Waterbury . . .	77.7	57.8	19.9	93	14	45	28	67.8	. .	4.17	. .	. .	16	
	New York.														
251	Albany	78.1	60.1	18.0	91	13	50	31	69.1	. .	6.11	. .	. .	18	
252	Boyd's Corner .	. .	. .	. .	89	15	58	31	. .	67.2	3.03	. .	. .	12	*a b*
253	Carmel	77.8	55.3	22.5	88	13	47	12	66.6	. .	3.65	. .	. .	13	
254	New York (*a*) .	. .	. .	. .	90	15	60	9	. .	72.3	3.94	. .	. .	14	*e*
255	" " (*b*) .	78.0	63.6	14.4	89	15	58	8, 9	70.8	. .	4.11	. .	. .	15	
258	Poughkeepsie . .	80.1	54.6	25.5	92	13	43	28	67.4	. .	5.19	. .	. .	13	
256	Setauket	77.0	60.8	16.2	88	13	53	3	68.9	67.8	5.71	. .	. .	12	*b*

STATIONS REPORTING PRECIPITATION ONLY.—JULY, 1891.

No.	Station.	Total Precip.	Snow-fall.	No	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	5.22	. .	179	Robert's Dam, Mass.	3.21	. .
40	Lake Village, " . .	5.65	. .	159	Salem, "	3.00	. .
44	Mine Falls, " . .	2.94	. .	166	Waltham, "	2.83	. .
48	Pennichuck Station, " . .	3.11	. .	171	Winchester, "	3.20	. .
53	Weir's Bridge, " . .	5.23	. .	203	Lonsdale, R. I.	4.26	. .
55	Wolfboro', " . .	5.85	. .	206	Pawtucket, "	3.52	. .
75	Cornwall, Vt. . . .	3.98	. .	247	Falls Village, Conn.	1.62	. .
187	Ashland, Mass. . .	3.72	. .	224	Hartford (*b*), "	4.41	. .
107	Boston (*b*), " . . .	3.18	. .	225	Lake Konomoc, "	2.69	. .
111	Chicopee, " . . .	7.64	. .	249	Lebanon, "	3.22	. .
112	Clinton, " . . .	3.10	. .	227	New Hartford, "	4.91	. .
119	Fiskdale, " . . .	4.20	. .	241	Newington, "	4.15	. .
130	Leominster, " . . .	4.30	. .	246	No. Woodstock, "	5.35	. .
138	Medford, " . . .	3.14	. .	248	So. Manchester, "	4.77	. .
142	Mt. Nonotuck, " . . .	5.98	. .	238	Stevenson, "	2.88	. .
143	Mystic Lake, " . . .	3.16	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta., " . . .	3.29	. .	234	Wallingford, "	5.43	. .
150	Newburyport (*b*), " . . .	3.42	. .	245	W. Simsbury, "	5.11	. .
156	Randolph, " . . .	2.59	. .	257	S. E. Reservoir, N. Y.	4.67	. .

Notes.—*a*. Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Mean for 28 days; *h*—Mean for 30 days.

		TEMPERATURE.									PRECIPITATION.				
									MEAN.			Snowfall.			
Number.	STATION.	Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	Reference letter to Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	67.6	56.3	11.3	75	5	50	20	62.0	61.7	5.41	. .	. .	11	*c*
	Maine.														
2	Bar Harbor . .	72.9	56.3	16.7	86	11	48	20	64.6	. .	2.45	. .	. .	9	
3	Belfast	. .	. .	. .	83	11	54	31	. .	63.8	3.32	. .	. .	7	*a c*
20	Bethel	. .	. .	. .	87	11	35	20	. .	. .	5.33	. .	. .	10	
14	Calais	75.2	55.9	19.3	88	22	44	19	65.6	. .	3.45	. .	. .	8	
19	East Machias .	72.1	53.8	18.3	82	12	42	20	63.0	. .	4.90	. .	. .	13	
4	Eastport	68.3	53.8	14.5	79	12	48	20	61.0	. .	4.06	. .	. .	13	
5	Fairfield	77.4	55.3	22.1	89	10	41	20	66.3	. .	4.00	. .	. .	9	
18	Farmington . .	81.4	53.4	28.0	97	10	38	20	67.4	. .	4.03	. .	. .	13	
7	Kent's Hill . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
8	Lewiston	76.9	58.0	18.9	89	10	46	1	67.4	67.4	2.97	. .	. .	8	*b*
9	Mayfield	. .	. .	. .	83	11	41	20	. .	63.9	4.78	. .	. .	13	*a b*
10	Orono	75.8	56.6	19 1	87	11	43	20	66.2	66.3	4.67	. .	. .	10	*b*
11	Petit Menan . .	. .	. .	. .	73	12	51	31	. .	60.9	. .	. .	. .	. .	*a b*
12	Portland	73.0	59.1	13.9	88	12	50	1	66.0	. .	1.15	. .	. .	11	
15	West Jonesport	. .	. .	. .	82	8	52	*g*	. .	59.6	. .	. .	. .	. .	*a b g*
	New Hampshire.														
33	Berlin Falls . .	76.2	49.8	26.4	90	11	35	20	63.0	. .	. .	. .	. .	. .	
34	Berlin Mills . .	75.7	49.6	26.1	88	10	33	20	62.6	. .	5.26	. .	. .	9	
37	Concord	76.1	59.2	16.9	87	11	45	1	67.6	. .	2.95	. .	. .	9	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	74.8	56.9	17.9	84	12	46	1	65.8	64.6	3.21	. .	. .	10	*b*
58	" (*b*)	77.7	54.3	23.4	91	10	42	1	66.0	66.1	3.34	. .	. .	11	*d*
59	Littleton	75.1	53.4	21.7	89	11	41	20	64.2	63.6	5.30	. .	. .	11	*b*
42	Manchester (*b*)	77.6	61.0	16.5	88	11	48	1	69.3	68.7	2.38	. .	. .	12	*b*
43	" (*c*)	78.8	59.4	19.4	92	11	48	1	69.1	. .	2.01	. .	. .	13	
45	Nashua	80.8	58.9	21.9	94	11	47	1	69.8	69.2	1.60	. .	. .	9	*c*
57	Newton	78.5	57.0	21.5	91	12	47	1, 20	67.8	. .	2.23	. .	. .	6	*h*
47	North Conway .	77.9	54.3	23.6	89	22	40	1	66.1	. .	5.09	. .	. .	8	
49	Plymouth . . .	79.5	53.2	26.3	96	11	40	1	66.4	64.7	5.29	. .	. .	8	*b*
51	Stratford	80.0	54.0	26.0	91	10	38	20	67.0	. .	2.75	. .	. .	9	
52	Walpole	76.9	56.6	20.3	86	11	46	1	66.8	. .	5.28	. .	. .	11	
54	West Milan . .	75.3	49.5	25.8	88	11	34	20	62.4	. .	2.64	. .	. .	12	
	Vermont.														
71	Brattleboro' (*a*)	81.2	58.6	22.6	92	11	47	1	69.9	67.9	4.80	. .	. .	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3.25	. .	. .	11	
74	Chelsea	. .	. .	. .	80	11	42	1	. .	60.5	4.00	. .	. .	14	*a b*
90	Enosburgh Falls	77.0	53.2	13.8	90	11	40	20	65.1	65.0	4.64	. .	. .	16	*f*
88	Hartland . . .	75.8	51.8	24.0	86	10	41	1	63.8	. .	3.31	. .	. .	16	
77	Jacksonville . .	78.9	52.8	26.1	88	*i*	41	1	65.8	63.8	4.74	. .	. .	17	*c*
78	Lunenburgh . .	76.2	59.4	16.8	90	4	48	29	67.8	66.8	2.67	. .	. .	10	*b*
82	Northfield . . .	74.8	54.2	20.6	89	11	42	1	64.5	. .	4.78	. .	. .	14	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	85	10, 11	48	1	. .	69.6	3.50	. .	. .	9	*a b*
85	Vernon	. .	. .	. .	94	11	54	29	. .	69.2	3.30	. .	. .	7	*a c*
89	Weathersfield .	74.6	5.95	15.1	88	21	48	28, 29	67.5	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
192	Adams	75.7	59.8	15.9	88	11	51	13, 16	67.8	. .	. .	. .	. .	. .	
101	Amherst (*a*) . .	. .	. .	. .	88	11	46	1	. .	68.5	4.70	. .	. .	. .	*b*
102	" (*b*) . .	78.8	58.9	19.9	90	11	46	1	68.8	68.3	3.67	. .	. .	13	*b*
177	" (*c*) . .	80.4	57.7	22.7	92	11	45	1	69.0	70.2	4.18	. .	. .	11	*e*
180	Andover . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.99	. .	. .	13	
104	Blue Hill (sum't)	75.5	60.5	15.0	91	11	49	1	68.0	67.7	4.72	. .	. .	11	*d*
105	" " (base)	76.5	61.5	15.0	90	11	49	1	69.0	. .	4.66	. .	. .	. .	
174	" " (valley)	78.7	59.3	19.4	92	11	45	1	69.0	. .	4.70	. .	. .	. .	
106	Boston (*a*) . . .	76.8	63.2	13.6	90	12	54	1	70.0	. .	3.87	. .	. .	13	
108	Cambridge (*a*) .	76.7	61.6	15.1	87	12	50	1	69.2	. .	3.21	. .	. .	11	
109	" (*b*) .	78.8	63.0	15.8	90	12	53	30, 31	70.9	. .	3.68	. .	. .	13	
110	Chestnut Hill .	79.9	60.5	19.4	90	12	48	1	70.2	. .	4.02	. .	. .	11	
182	Concord	79.6	58.8	20.8	93	11	50	3	69.2	67.6	2.85	. .	. .	11	*f*
114	Cotuit	78.3	63.3	15.0	93	10	47	1	70.8	. .	4.13	. .	. .	10	
116	Deerfield	. .	. .	. .	92	11	56	1	. .	70.2	. .	. .	. .	. .	*a b*
117	Dudley	78.2	65.3	12.9	94	11	53	*j*	71.8	. .	2.58	. .	. .	10	*j*
193	Egg Rock, Nahant	72.0	61.2	10.8	86	12	54	1	66.5	. .	. .	. .	. .	. .	
120	Fitchburg (*a*) .	. .	. .	. .	90	11	54	31	. .	68.6	2.48	. .	. .	14	*a b*
121	" (*b*) .	78.5	59.7	18.8	92	11	49	1	69.1	. .	2.46	. .	. .	11	
186	Florida (*a*) . .	74.4	. .	. .	90	11	. .	. .	. .	62.9	3.60	. .	. .	10	*b*
188	" (*b*) . .	73.2	55.7	17.5	86	11	43	1	64.4	. .	3.56	. .	. .	12	
122	Framingham . .	80.5	58.3	22.2	94	11	45	1	69.4	. .	5.22	. .	. .	12	
123	Gilbertville . . .	79.9	58.7	21.2	90	11	45	1	69.3	. .	3.65	. .	. .	11	
124	Groton	78.6	60.5	18.1	91	11	49	1	69.6	. .	1.95	. .	. .	10	
189	Hoosac Tunnel .	81.5	56.4	25.1	95	12	41	1	69.0	. .	2.47	. .	. .	3	
178	Kendal Green .	77.7	63.4	14.3	92	12	48	1	70.6	. .	4.23	. .	. .	9	
127	Lake Cochituate	82.8	58.9	23.9	97	11	41	1	70.8	. .	4.91	. .	. .	11	
128	Lawrence . . .	82.0	61.1	20.9	94	10, 11	50	1	71.6	. .	2.01	. .	. .	9	
129	Leicester	76.1	57.2	18.9	79	11	53	29, 31	66.7	65.6	3.26	. .	. .	4	*d*
131	Long Plain . . .	76.8	66.0	10.8	90	11	54	3	71.4	. .	2.32	. .	. .	6	*a*
133	Lowell (*b*) . .	79.2	61.5	17.6	92	11	50	1	70.3	. .	2.14	. .	. .	11	
136	" (*c*) . . .	78.5	59.4	19.1	92	11	47	1	68.9	. .	. .	. .	. .	. .	
176	" (*d*) . . .	81.4	60.8	20.6	95	11	46	1	71.1	. .	. .	. .	. .	9	
134	Ludlow	77.7	56.9	20.8	90	11	41	1	67.3	. .	3.32	. .	. .	12	
135	Lynn	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
183	Mansfield	. .	. .	. .	95	11	56	19	. .	70.1	3.52	. .	. .	11	*a b*
139	Middleboro' . .	77.9	58.8	19.1	. .	11	41	1	68.3	. .	3.22	. .	. .	9	*h*
140	Milton	76.0	59.7	16.3	88	11	49	18	67.8	. .	4.31	. .	. .	10	
141	Monson	79.5	58.6	20.9	92	11	44	1	69.0	. .	3.27	. .	. .	8	
173	Nahant	71.6	60.4	11.2	86	10, 12	53	1	66.0	65.6	3.58	. .	. .	8	*b*
146	Nantucket . . .	74.5	63.3	11.2	84	10	57	30, 31	68.9	. .	3.41	. .	. .	8	
147	New Bedford (*a*)	77.1	62.6	14.5	90	10	52	1	69.8	69.5	2.09	. .	. .	10	*b*
148	" " (*b*)	78.6	61.9	16.7	93	10	50	20	70.2	. .	2.17	. .	. .	15	
149	Newburyport (*a*)	78.3	60.6	17.7	91	12	49	1	69.4	68.3	2.04	. .	. .	13	*b*
152	Northampton .	81.7	63.5	18.2	93	11	52	1	72.6	. .	3.81	. .	. .	8	
153	Plymouth . . .	. .	. .	. .	91	12	59	31	. .	71.5	3.18	. .	. .	10	*a b*
154	Princeton . . .	76.5	58.1	18.4	88	11	46	1	67.3	. .	1.99	. .	. .	16	
155	Provincetown .	77.7	62.2	15.5	90	11	52	20	69.9	. .	3.93	. .	. .	9	
190	Savoy	73.6	. .	. .	87	24	. .	. .	. .	. .	3.38	. .	. .	10	
160	South Hingham	. .	59.2	. .	. .	. .	44	1	. .	. .	4.73	. .	. .	12	
161	Springfield . . .	80.2	64.0	16.2	92	11	50	1	72.1	72.1	4.01	. .	. .	12	*b*
162	Swampscott (*a*).	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
191	" (*b*).	75.3	60.9	14.4	93	10	52	1	68.1	66.7	. .	. .	. .	. .	*b*
163	Taunton (*a*) . .	80.4	62.0	18.4	94	10, 11	48	1	71.2	69.8	3.38	. .	. .	14	*b*
164	" (*b*) . .	80.2	61.0	19.2	94	11	47	1	70.6	. .	3.97	. .	. .	10	
165	" (*c*) . .	80.4	59.7	20.7	94	11	41	1	70.0	. .	3.89	. .	. .	12	
184	" (*d*) . .	82.0	60.7	21.3	96	11	45	1	71.7	70.3	4.79	. .	. .	13	*b*
181	Wakefield . . .	81.1	63.5	17.7	92	10, 11	52	9, 14	72.3	. .	2.51	. .	. .	7	
168	Wellesley . . .	77.1	59.7	17.3	91	11	44	1	68.4	. .	5.38	. .	. .	13	
169	Westboro' . . .	83.8	61.7	22.1	97	11	50	1	72.7	. .	3.02	. .	. .	11	*a*

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	9	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	73.8	64.6	9.2	85	10	56	1	69.2	. .	3.51	. .	. .	8	
202	Bristol	77.3	65.8	11.5	88	10	58	7	71.6	71.0	2.26	. .	. .	13	*b*
210	Kingston (*a*) . .	79.5	61.5	18.0	93	10	47	1	70.5	. .	2.25	. .	. .	9	
211	" (*b*) . .	77.7	61.8	15.9	91	10, 11	48	2	69.8	69.3	3.29	. .	. .	10	*b*
204	Newport	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
205	Olneyville . . .	80.4	65.8	14.6	94	11	54	1	73.1	. .	. .	. .	. .	. .	
207	Providence (*a*) .	81.7	64.8	16.9	96	11	56	1	73.2	72.1	6.26	. .	. .	10	*c*
208	" (*b*) .	81.4	61.5	19.9	96	11	46	1	71.4	. .	6.32	. .	. .	12	
212	" (*c*) .	78.9	62.4	16.5	93	11	50	1	70.6	. .	6.54	. .	. .	12	
	Connecticut.														
221	Canton	82.0	60.0	22.0	94	11	51	9	71.0	. .	4.86	. .	. .	10	
222	Colchester . . .	79.6	61.1	18.5	92	11	45	1	70.3	. .	. .	. .	. .	. .	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
237	Mansfield	77.5	59.7	17.8	91	11	46	1	68.6	68.4	3.95	. .	. .	13	*b*
226	Middletown . .	80.2	62.2	18.0	92	11	48	1	70.2	70.0	3.52	. .	. .	10	*b*
228	New Haven . .	78.9	62.4	16.5	90	11	49	1	70.6	. .	3.14	. .	. .	11	
229	New London . .	77.3	63.9	13.4	92	10	52	1	70.6	. .	4.99	. .	. .	12	
250	N.Grosvenor Dale	80.0	66.3	13.7	95	11	51	1	73.2	73.4	4.03	. .	. .	9	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	75.2	64.1	11.1	89	11	48	1	69.7	68.2	. .	. .	. .	. .	*a b*
233	Voluntown . . .	. .	. .	. .	93	11	. .	. .	. .	69.8	5.08	. .	. .	11	*b h*
235	Waterbury . . .	80.8	61.6	19.2	97	11	45	1, 30	71.2	. .	3.04	. .	. .	13	
	New York.														
251	Albany	79.8	62.6	17.2	93	11	54	1, 29	71.2	. .	5.88	. .	. .	18	
252	Boyd's Corner .	. .	. .	. .	91	11	59	1	. .	73.4	5.61	. .	. .	11	*a b*
253	Carmel	81.0	61.8	19.2	94	11	52	30	71.4	. .	4.80	. .	. .	11	
254	New York (*a*) .	. .	. .	. .	98	10	57	29	. .	75.4	4.51	. .	. .	14	*e*
255	" " (*b*) .	80.5	66.9	13.6	94	10	57	30	73.7	. .	5.87	. .	. .	17	
258	Poughkeepsie . .	81.5	60.1	21.5	97	11	45	1	70.8	. .	4.12	. .	. .	9	
256	Setauket	78.5	64.9	13.6	90	11	52	1	71.7	70.8	3.43	. .	. .	12	*b*

STATIONS REPORTING PRECIPITATION ONLY.—AUGUST, 1891.

No.	Station.	Total Precip.	Snow-fall.	No	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.59	. .	179	Robert's Dam, Mass.	5.60	. .
40	Lake Village, " . .	3.16	. .	159	Salem, "	2.75	. .
44	Mine Falls, " . .	1.68	. .	166	Waltham, "	5.32	. .
48	Pennichuck Station, " . .	1.44	. .	171	Winchester, "	3.66	. .
53	Weir's Bridge, " . .	4.07	. .	203	Lonsdale, R. I.	5.91	. .
55	Wolfboro', " . .	3.76	. .	206	Pawtucket, "	4.95	. .
75	Cornwall, Vt. . . .	4.36	. .	247	Falls Village, Conn.	3.37	. .
187	Ashland, Mass. . .	4.20	. .	224	Hartford (*b*), "	3.92	. .
107	Boston (*b*), " . . .	3.74	. .	225	Lake Konomoc, "	5.19	. .
111	Chicopee, " . . .	3.96	. .	249	Lebanon, "	4.11	. .
112	Clinton, " . . .	2.80	. .	227	New Hartford, "	5.44	. .
119	Fiskdale, " . . .	4.47	. .	241	Newington, "	4.01	. .
130	Leominster, " . . .	1.95	. .	246	No. Woodstock, "	5.05	. .
138	Medford, " . . .	3.45	. .	248	So. Manchester, "	4.80	. .
142	Mt. Nonotuck, " . . .	5.65	. .	238	Stevenson, "	2.73	. .
143	Mystic Lake, " . . .	4.10	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta., " . . .	3.72	. .	234	Wallingford, "	3.01	. .
150	Newburyport (*b*), " . . .	2.27	. .	245	W. Simsbury, "	4.92	. .
156	Randolph, " . . .	5.45	. .	257	S. E. Reservoir, N. Y.	5.31	. .

Notes.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: ¼ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A. M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Minimum on 1st, 9th, 14th, 19th. *h*—Mean for 30 days. *i*—Maximum on the 7th, 10th, 12th, *j*—Minimum on the 29th, 30th, 31st.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	Mean.		Total, including Melted Snow.	Snowfall.		No. of days with precipitation.	
									From Max. and Min.	From Tri-daily Observations.		Total.	On ground at end of Month.		
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 *in.*	11 *in.*	12 *in.*	13	14
	New Brunswick.														
1	St. John	62.3	52.5	9.8	69	23	41	24	57.4	57.6	5.14	. .	. .	9	*c*
	Maine.														
2	Bar Harbor . .	70.5	53.6	16.9	84	25	45	24	62.0	. .	2.15	. .	. .	7	
3	Belfast	. .	. .	. .	81	25	50	9	. .	60.7	1.55	. .	. .	5	*a c*
20	Bethel	. .	. .	. .	85	25	32	9	. .	. .	1.16	. .	. .	4	
14	Calais	69.7	50.8	18.9	80	25	40	16	60.2	. .	3.53	. .	. .	8	
19	East Machias .	67.5	49.8	17.7	78	25	39	20	58.7	. .	2.63	. .	. .	8	
4	Eastport	64.9	51.9	13.0	76	11	44	24	58.4	. .	2.65	. .	. .	7	
5	Fairfield	72.9	48.7	24.2	85	25	36	9	60.3	. .	2.06	. .	. .	9	
18	Farmington . .	78.5	46.2	32.3	92	25	30	9	62.4	. .	1.45	. .	. .	8	
7	Kent's Hill . . .	. .	. .	. .	84	25	41	9	. .	. .	. .	. .	. .	. .	
8	Lewiston	72.4	51.8	20.6	86	25	40	9	62.1	62.1	1.00	. .	. .	7	*b*
9	Mayfield	. .	. .	. .	79	25	41	9	. .	58.4	1.58	. .	. .	9	*a b*
10	Orono	70.7	51.6	19.1	86	25	40	20	61.2	60.7	3.68	. .	. .	8	*b*
11	Petit Menan . .	. .	. .	. .	69	2, 3	43	24	. .	57.8	. .	. .	. .	. .	*a b*
12	Portland	70.7	54.9	15.8	89	25	47	15	62.8	. .	1.94	. .	. .	9	
15	West Jonesport	. .	. .	. .	74	14, 23	44	20	. .	56.3	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
34	Berlin Mills . .	72.3	44.8	27.5	84	25	30	9	58.6	. .	1.85	. .	. .	11	
37	Concord	72.8	54.2	18.7	85	18	39	9	63.5	. .	2.09	. .	. .	8	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	70.5	52.6	17.9	81	25	38	15	61.6	61.0	1.54	. .	. .	4	*b*
58	" (*b*) . .	75.5	49.7	25.7	88	25	36	9, 15	62.6	60.6	0.82	. .	. .	4	*d*
59	Littleton	71.2	48.6	22.6	83	18	33	9	59.9	58.9	2.62	. .	. .	10	*b*
42	Manchester (*b*)	74.5	55.0	19.5	87	25	40	9	64.7	63.9	1.76	. .	. .	13	*b*
43	" (*c*)	75.3	53.7	21.6	88	18	40	9	64.5	. .	1.61	. .	. .	11	
45	Nashua	77.0	53.6	23.4	90	18	37	9	65.3	64.7	1.58	. .	. .	10	*c*
57	Newton	74.6	52.5	22.1	88	18	42	9	63.6	. .	1.05	. .	. .	7	*i*
47	North Conway .	75.1	47.7	27.4	90	25	36	9	61.4	. .	0.86	. .	. .	5	
49	Plymouth . . .	76.0	48.3	27.7	88	18	34	9	62.2	58.9	1.23	. .	. .	7	*b*
51	Stratford	79.3	50.1	29.2	88	25	35	9	64.7	. .	1.43	. .	. .	4	
52	Walpole	72.3	52.4	19.9	81	28	40	9	62.4	. .	1.75	. .	. .	8	
54	West Milan . .	72.7	47.3	25.4	88	18	32	9	60.0	. .	1.71	. .	. .	8	
	Vermont.														
71	Brattleboro' (*a*)	76.1	54.7	21.4	88	18	39	9	65.4	63.2	1.29	. .	. .	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.44	. .	. .	8	
74	Chelsea	. .	. .	. .	78	18	40	30	. .	56.8	2.14	. .	. .	9	*a b*
90	Enosburgh Falls	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
88	Hartland . . .	73.5	47.8	25.7	85	18	35	9	60.6	. .	2.34	. .	. .	11	
77	Jacksonville . .	75.3	48.2	27.1	84	*g*	33	9	61.7	59.4	1.47	. .	. .	9	*c g*
78	Lunenburgh . .	73.0	56.2	16.8	84	18, 25	42	10	64.6	63.7	2.14	. .	. .	9	*b*
82	Northfield . . .	72.0	49.1	23.0	85	18, 25	36	15	60.6	. .	0.98	. .	. .	12	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	82	18	44	9	. .	63.1	1.60	. .	. .	5	*a b*
85	Vernon	. .	. .	. .	90	18	40	9	. .	65.1	0.83	. .	. .	6	*a c*
89	Weathersfield .	72.9	53.4	19.5	86	18	36	30	63.1	. .	. .	. .	. .	. .	

No.	Stations.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	Massachusetts.														
192	Adams	74.2	55.4	18.8	85	18	41	9	64.8	. .	. .	. .	. .	. .	
101	Amherst (*a*) . .	. .	. .	. .	86	18	38	9	. .	63.7	2.25	. .	. .	. .	*b*
102	" (*b*) . .	74.8	53.9	20.9	89	18	37	9	64.4	63.6	2.22	. .	. .	4	*b*
177	" (*c*) . .	76.9	52.9	24.0	92	18	36	9	64.9	65.3	2.66	. .	. .	7	*e*
180	Andover . . .	75.3	54.8	20.5	88	18	45	9.	65.1	62.8	1.86	. .	. .	8	*b*
104	Blue Hill (sum't)	72.5	56.1	16.4	86	18	45	9	64.3	64.1	3.82	. .	. .	9	*d*
105	" " (base)	73.2	56.5	17.7	87	18	44	9	64.8	. .	3.55	. .	. .	. .	
174	" " (valley)	75.6	54.3	21.3	89	18	44	20	64.9	. .	3.14	. .	. .	. .	
106	Boston (*a*) . . .	73.9	59.5	14.4	90	18	50	9	66.7	. .	2.29	. .	. .	11	
108	Cambridge (*a*) .	72.2	57.0	15.2	84	18	46	9	64.6	. .	2.63	. .	. .	6	
109	" (*b*) .	75.0	57.3	17.7	86	18	47	9	66.2	. .	2.73	. .	. .	7	
110	Chestnut Hill .	77.7	56.8	20.9	90	18	47	9	67.2	. .	3.07	. .	. .	6	
182	Concord	75.5	52.3	23.2	89	18	40	9	63.9	62.2	1.69	. .	. .	8	*f*
114	Cotuit	72.3	57.8	14.5	80	18	49	15, 20	65.0	. .	5.57	. .	. .	8	
116	Deerfield	. .	. .	. .	90	18	43	9	. .	65.2	. .	. .	. .	. .	*a b*
117	Dudley	74.8	55.2	19.6	86	21	46	9, 15	65.0	. .	2.45	. .	. .	4	
193	Egg Rock, Nahant	69.2	58.1	11.1	82	18	49	9	63.6	. .	. .	. .	. .	. .	
120	Fitchburg (*a*) .	. .	. .	. .	86	18	48	8	. .	63.6	1.87	. .	. .	8	*a b*
121	" (*b*) .	75.5	54.6	20.9	88	18	42	9	65.0	. .	1.88	. .	. .	7	
186	Florida (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
188	" (*b*) . .	70.7	51.7	19.0	80	18, 19	38	9	61.2	. .	1.69	. .	. .	4	
122	Framingham . .	76.5	54.4	22.1	88	18	44	9	65.5	. .	2.35	. .	. .	7	
123	Gilbertville . . .	78.1	54.4	23.7	87	18	37	9	66.3	. .	1.31	. .	. .	6	
124	Groton	73.8	56.2	17.5	86	18	45	9	65.0	. .	2.05	. .	. .	9	
189	Hoosac Tunnel .	77.2	54.2	23.0	86	27	42	9	67.2	. .	0.95	. .	. .	3	
178	Kendal Green .	73.0	57.7	15.3	85	18	44	9	65.4	. .	1.80	. .	. .	4	
127	Lake Cochituate	79.5	. .	. .	91	18	36	9	. .	. .	2.12	. .	. .	6	
128	Lawrence . . .	76.9	56.0	20.9	88	18	45	9	66.4	. .	1.47	. .	. .	6	
129	Leicester	72.9	55.3	12.6	80	18	42	8	64.1	. .	2.27	. .	. .	6	
131	Long Plain . . .	72.7	60.1	12.6	86	18	44	9	66.4	. .	2.10	. .	. .	7	*a*
133	Lowell (*b*) . .	75.2	56.3	18.9	86	18	44	9	66.2	. .	1.78	. .	. .	7	
136	" (*c*) . . .	74.4	54.3	20.1	86	18	40	9	64.3	. .	. .	. .	. .	. .	
176	" (*d*) . . .	78.7	56.6	22.1	92	18	41	9	66.6	. .	. .	. .	. .	4	
134	Ludlow	74.0	52.7	21.3	88	18	36	9	63.3	. .	1.77	. .	. .	8	
135	Lynn	68.2	54.4	13.8	80	18	43	9	61.3	. .	2.43	. .	. .	6	
183	Mansfield	. .	. .	. .	88	18	44	30	. .	63.7	3.20	. .	. .	8	*a b*
139	Middleboro' . .	75.3	52.8	22.5	88	18	39	9	64.0	. .	1.97	. .	. .	7	*h*
140	Milton	72.4	55.6	16.8	86	18	40	9	64.0	. .	3.14	. .	. .	6	
141	Monson	74.7	54.1	20.6	88	18	38	9	64.4	. .	3.40	. .	. .	5	
173	Nahant	68.1	55.2	10.8	82	18	50	15	61.6	62.5	. .	. .	. .	. .	*b i*
146	Nantucket . . .	70.8	59.9	10.9	77	6	56	15	65.3	. .	3.12	. .	. .	7	
147	New Bedford (*a*)	71.9	57.3	14.7	80	18, 26	46	9	64.6	64.6	2.31	. .	. .	7	*b*
148	" " (*b*)	74.2	56.5	17.7	86	18	44	9	65.4	. .	1.97	. .	. .	9	
149	Newburyport (*a*)	74.6	56.0	18.6	88	18	46	9	65.3	64.1	1.66	. .	. .	9	*b*
152	Northampton .	78.0	58.6	19.4	87	*j*	45	9	68.3	. .	2.82	. .	. .	7	*j*
153	Plymouth . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.23	. .	. .	6	
154	Princeton . . .	73.1	54.0	19.1	85	18	42	15	63.6	. .	2.43	. .	. .	6	
155	Provincetown .	73.0	58.6	14.4	77	*k*	50	20	65.8	. .	2.77	. .	. .	7	*k*
190	Savoy	71.1	45.5	25.6	84	21	33	4, 30	58.3	. .	0.96	. .	. .	5	
160	South Hingham	. .	53.9	. .	. .	. .	38	9	. .	. .	2.27	. .	. .	7	
161	Springfield . . .	75.3	58.3	17.0	89	18	50	20	66.8	66.7	1.41	.	. .	7	*b*
191	Swampscott (*b*).	73.0	56.9	16.2	88	18	46	9	65.0	63.7	. .	. .	. .	. .	*b*
163	Taunton (*a*) . .	76.9	56.3	20.6	91	18	44	9	66.6	65.3	2.40	. .	. .	7	*b*
164	" (*b*) . .	75.8	54.1	21.7	87	18	44	9	65.0	. .	2.27	. .	. .	9	
165	" (*c*) . .	76.4	53.5	22.9	90	18	38	9	65.0	. .	2.51	. .	. .	10	
184	" (*d*) . .	78.5	54.1	24.4	92	18	42	9, 20	64.9	64.8	2.39	. .	. .	7	*b*
181	Wakefield . . .	79.6	56.7	22.9	88	18	41	9	68.2	. .	1.66	. .	. .	4	
168	Wellesley . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3.26	. .	. .	9	
169	Westboro' . . .	78.5	56.6	21.9	92	18	41	9	67.5	. .	2.62	. .	. .	8	*a*
170	Williamstown .	75 8	54.0	21.8	86	18	. .	. .	64.9	64.0	0.74	. .	. .	6	*b*

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island	70.7	60.8	9.9	81	26	56	9	65.7	. .	1.69	. .	. .	7	
202	Bristol	72.5	61.6	10.9	82	26	50	9	67.1	66.4	1.82	. .	. .	9	*b*
210	Kingston (*a*)	75.0	55.9	19.1	85	18	45	9	65.4	. .	2.11	. .	. .	7	
211	“ (*b*)	72.7	56.7	16.0	82	18, 26	48	9	64.7	64.3	2.20	. .	. .	6	*b*
204	Newport	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
205	Olneyville	75.3	60.8	14.5	88	18	51	9	68.0	. .	. .	. .	. .	. .	
207	Providence (*a*)	74.8	58.5	16.3	88	18	48	30	66.6	66.1	2.77	. .	. .	6	*c*
208	“ (*b*)	77.3	55.7	21.6	92	18	47	9, 30	66.5	. .	2.90	. .	. .	7	
212	“ (*c*)	74.3	57.4	16.9	88	18	49	9	65.8	. .	3.13	. .	. .	7	
	Connecticut.														
221	Canton	76.7	55.8	20.9	88	18	41	9	66.2	. .	1.46	. .	. .	8	
222	Colchester	75.3	56.3	19.0	88	18	43	9	65.8	. .	. .	. .	. .	. .	
223	Hartford (*a*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
237	Mansfield	73.6	54.8	18.8	85	18	43	9	64.2	63.7	4.08	. .	. .	7	*b*
226	Middletown	75.7	57.0	18.7	86	18	44	9	66.4	64.8	3.46	. .	. .	4	*b*
228	New Haven	75.1	57.8	17.3	88	18	45	9	66.4	. .	3.96	. .	. .	6	
229	New London	73.4	59.4	14.0	86	26	48	9	66.4	. .	2.60	. .	. .	9	
250	N.Grosvenor Dale	73.2	61.8	11.3	82	18, 26	48	9	67.5	68.8	2.22	. .	. .	3	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson	72.1	59.1	13.0	83	18	45	10	65.6	64.6	. .	. .	. .	. .	*a b*
233	Voluntown	74.9	55.2	19.7	85	18	43	9, 10	65.0	64.3	4.10	. .	. .	6	*b l*
235	Waterbury	78.0	54.0	24.0	90	18	34	9	66.0	. .	1.68	. .	. .	6	
	New York.														
251	Albany	76.3	58.6	17.7	91	13	48	9	67.4	. .	1.94	. .	. .	8	
252	Boyd's Corner	. .	. .	. .	88	18	55	*m*	. .	68.2	1.67	. .	. .	4	*a b*
253	Carmel	77.1	55.9	21.2	88	18	43	10	66.5	. .	1.67	. .	. .	4	
254	New York (*a*)	. .	. .	. .	91	18	54	9	. .	71.6	2.49	. .	. .	6	*e*
255	“ “ (*b*)	77.4	62.9	14.5	87	18	54	9	70.2	. .	2.12	. .	. .	9	
258	Poughkeepsie	77.7	53.8	23.8	90	18	38	9	65.7	. .	1.12	. .	. .	5	
256	Setauket	74.5	61.0	13.5	87	18	53	11	67.7	66.9	3.18	. .	. .	5	*b*

STATIONS REPORTING PRECIPITATION ONLY.—SEPTEMBER, 1891.

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H.	2.53	. .	179	Robert's Dam, Mass.	2.93	. .
40	Lake Village, “	1.58	. .	159	Salem, “	2.31	. .
44	Mine Falls, “	1.74	. .	166	Waltham, “	2.53	. .
48	Pennichuck Station, “	1.35	. .	171	Winchester, “	2.01	. .
53	Weir's Bridge, “	0.96	. .	203	Lonsdale, R. I.	2.49	. .
55	Wolfboro', “	1.18	. .	206	Pawtucket, “	2.43	. .
75	Cornwall, Vt.	2.25	. .	247	Falls Village, Conn.	0.94	. .
187	Ashland, Mass.	2.44	. .	224	Hartford (*b*), “	4.46	. .
107	Boston (*b*), “	1.58	. .	225	Lake Konomoc, “	2.83	. .
111	Chicopee, “	1.19	. .	249	Lebanon, “	5.36	. .
112	Clinton, “	2.10	. .	227	New Hartford, “	. .	. .
119	Fiskdale, “	2.83	. .	241	Newington, “	4.64	. .
130	Leominster, “	2.08	. .	246	No. Woodstock, “	3.06	. .
138	Medford, “	3.06	. .	248	So. Manchester, “	5.47	. .
142	Mt. Nonotuck, “	2.33	. .	238	Stevenson, “	1.68	. .
143	Mystic Lake, “	2.31	. .	232	Uncasville, “	. .	. .
144	Mystic Pumping Sta., “	2.67	. .	234	Wallingford, “	3.84	. .
150	Newburyport (*b*), “	1.59	. .	245	W. Simsbury, “	1.46	. .
156	Randolph, “	2.40	. .	257	S. E. Reservoir, N. Y.	2.00	. .

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Maximum on 3d, 18th, 23d. *h*—Mean for 29 days. *i*—Mean for 28 days. *j*—Maximum on 18th, 23d, 25th. *k*—Maximum on 3d, 11th, 21st *l*—Mean maximum and minimum for 29 days; mean tri-daily for 28 days. *m*—maximum on 10th, 17th, 30th.

Number.	Station.	TEMPERATURE.									PRECIPITATION.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	New Brunswick.														
1	St. John	49.4	39.6	9.8	60	5	22	29	44.5	44.7	6.81	6	. .	11	*c*
	Maine.														
2	Bar Harbor . .	54.6	40.5	14.2	74	3	25	29	47.6	. .	4.76	T	. .	9	
3	Belfast	. .	. .	. .	72	3, 4	29	29	. .	45.9	2.97	T	. .	7	*a c*
20	Bethel	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
14	Calais	53.9	38.5	15.4	77	3	22	29	46.2	. .	5.78	T	. .	7	
19	East Machias .	52.0	36.1	15.9	66	3	22	29	44.1	. .	6.45	. .	. .	10	
4	Eastport	51.6	40.8	10.8	68	3	24	29	46.2	. .	4.43	. .	. .	13	
5	Fairfield	56.2	33.6	22.6	82	3, 4	19	29	44.3	. .	1.38	. .	. .	6	
18	Farmington . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	Kent's Hill . . .	52.5	36.7	15.8	83	4	21	29	44.6	. .	2.12	. .	. .	3	*g*
8	Lewiston	54.8	36.5	18.3	83	3	23	29	45.6	46.0	2.40	T	. .	10	*b*
9	Mayfield	. .	. .	. .	80	4	14	29	. .	41.6	1.56	T	. .	6	*a b*
10	Orono	54.5	36.9	17.6	83	4	22	29	45.7	45.6	2.85	. .	. .	11	*b*
11	Petit Menan . .	. .	. .	. .	58	16	28	29	. .	43.7	. .	. .	. .	. .	*a b*
12	Portland	54.8	40.0	14.8	77	3	27	29	47.4	. .	3.22	. .	. .	8	
15	West Jonesport	. .	. .	. .	64	4	24	29	. .	45.2	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
34	Berlin Mills . .	53.9	29.3	24.6	82	4	10	29	41.6	. .	1.89	1	. .	8	
37	Concord	56.3	38.2	18.1	83	4	22	29	47.3	. .	2.63	. .	. .	7	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	52.8	35.4	17.4	79	4	15	29	44.1	46.4	1.50	. .	. .	7	*b*
58	" (*b*) . .	56.6	33.6	23.0	89	4	14	29	45.1	43.1	1.49	. .	. .	4	*d*
59	Littleton	. .	. .	. .	80	4	15	29	. .	42.4	1.73	. .	. .	10	*b*
42	Manchester (*b*)	57.8	38.9	18.9	87	4	19	29	48.4	48.9	2.68	. .	. .	8	*b*
43	" (*c*)	58.6	38.2	20.4	89	4	22	29	48.4	. .	2.16	. .	. .	7	
45	Nashua	59.9	37.3	22.6	88	4	19	29	48.6	48.7	2.33	T	. .	6	*c*
57	Newton	57.2	38.1	19.1	83	4	18	29	47.6	. .	3.55	. .	. .	10	
47	North Conway .	57.8	32.5	25.3	86	4	16	29	45.2	. .	2.44	. .	. .	6	
49	Plymouth . . .	55.6	31.7	23.9	83	4	16	12	43.6	42.0	1.66	. .	. .	7	*b*
51	Stratford	59.5	33.5	26.0	90	3	14	29	46.5	. .	0.92	. .	. .	4	
52	Walpole	56.2	33.5	22.7	80	4	17	29	44.8	. .	2.24	. .	. .	9	
54	West Milan . .	55.0	30.3	24.7	82	3	11	29	42.6	. .	1.64	T	. .	5	
	Vermont.														
71	Brattleboro' (*a*)	62.7	37.5	25.2	85	4	21	25	50.1	46.9	2.75	. .	. .	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3.02	. .	. .	9	
74	Chelsea	. .	. .	. .	74	3	13	29	. .	41.2	2.43	T	. .	11	*a b*
90	Enosburgh Falls	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
88	Hartland . . .	56.0	31.4	24.6	85	4	13	29	43.7	. .	2.47	. .	. .	9	
77	Jacksonville . .	57.2	32.4	24.8	88	5	16	29	44.8	42.4	2.79	. .	. .	6	*c*
78	Lunenburgh . .	54.0	39.8	14.2	83	4	20	29	47.4	46.7	0.51	. .	. .	8	*b*
82	Northfield . . .	54.2	33.2	20.9	83	3	16	29	43.7	. .	1.87	T	. .	9	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	82	3	20	29	. .	46.6	2.00	T	. .	3	*a b*
85	Vernon	. .	. .	. .	80	4	18	29	. .	46.3	2.02	. .	. .	4	*a c*
89	Weathersfield .	53.3	35.5	17.8	79	4	. .	. .	44.4	. .	. .	. .	. .	. .	*g*

No.	Station.	Temperature.									Precipitation.				Notes.
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	Massachusetts.														
192	Adams	59.5	39.9	19.6	82	4	27	25	49.7	..	..	..	..	..	
101	Amherst (*a*)	..	..	..	81	4	22	29	..	51.4	2.81	..	..	..	*b*
102	" (*b*)	59.1	37.4	21.7	87	4	21	29	48.2	48.7	2.56	..	..	6	*b*
177	" (*c*)	61.3	36.2	25.1	89	4	20	29	48.7	49.9	2.94	..	..	7	
180	Andover	59.2	39.4	19.8	88	4	22	29	49.3	47.8	3.35	..	..	8	*b*
104	Blue Hill (sum't)	56.4	41.2	15.2	81	3	23	29	48.8	48.0	5.90	3	..	11	*d*
105	" " (base)	58.1	42.0	16.1	81	4	23	29	50.0	..	6.23	..	..	..	
174	" " (valley)	58.9	39.1	19.8	84	3	19	29	49.0	..	6.06	..	..	..	
106	Boston (*a*)	58.6	44.5	14.1	83	3	28	29	51.6	..	5.56	..	..	11	
108	Cambridge (*a*)	56.5	41.2	15.3	78	3	25	29	48.8	..	4.82	..	..	9	
109	" (*b*)	58.4	40 9	17.5	80	4	25	29	49.6	..	5.10	..	..	11	
110	Chestnut Hill	60.5	41.6	18.9	86	3	24	29	51.0	..	5.70	2	..	11	
182	Concord	59.2	36.6	22.6	87	4	18	29	47.9	45.2	3.16	2	..	12	*f*
114	Cotuit	56.5	44.0	12.5	70	3, 4	26	29	50.2	..	10.14	..	..	13	
116	Deerfield	..	..	..	85	4	20	29	..	48.0	..	..	..	..	*a b*
117	Dudley	59.1	41.4	17.7	84	3, 4	23	29	50.2	..	2.96	3	..	8	
193	Egg Rock, Nahant	55.5	44.3	11.2	70	4	24	29	49.9	..	..	..	..	..	
120	Fitchburg (*a*)	..	..	..	82	4	22	29	..	47.4	3.73	..	..	10	*a b*
121	" (*b*)	58.5	38.9	19.6	86	4	22	29	48.7	..	3.37	..	..	11	
186	Florida (*a*)	52.6	35.5	17.1	83	5	18	29	44.0	..	3.45	..	..	6	
188	" (*b*)	52.6	35.6	17.0	80	4	21	29	49.1	..	3.11	..	..	7	
122	Framingham	60.0	37.2	22.8	84	4	26	*h*	48.6	..	3.70	..	..	11	*h*
123	Gilbertville	57.9	34.6	23.3	83	4	19	29	46.3	..	3.82	1	..	6	*i*
124	Groton	58.7	40.5	18.2	83	4	21	29	49.6	..	2.72	..	..	7	
189	Hoosac Tunnel	57.2	42.2	15.0	83	4	29	30	49.7	..	2.10	..	..	3	
178	Kendal Green	57.2	42.8	14.4	80	4	22	29	50.0	..	4.18	..	..	10	
127	Lake Cochituate	62.6	37.0	25.5	89	4	16	29	49.8	..	4.14	..	..	11	*g*
128	Lawrence	59.5	39.7	19.7	88	4	23	29	49.6	..	2.96	..	..	7	
129	Leicester	59.8	38.5	21.3	78	4	23	29	49.1	..	1.87	..	..	6	
131	Long Plain	56.6	45.8	10.9	76	4	24	29	51.2	..	8.73	..	..	10	*a*
133	Lowell (*b*)	59.1	39.9	19.2	87	4	22	29	49.5	..	2.92	..	..	8	
136	" (*c*)	58.6	38.2	20.4	86	4	20	29	48.4	..	..	..	..	..	
176	" (*d*)	61.0	37.6	23.4	90	4	20	29	49.3	..	..	..	..	6	
134	Ludlow	57.7	35.5	22.2	86	4	17	29	46.6	..	3.73	..	..	8	
135	Lynn	52.7	41.4	11.3	68	4	22	29	47.0	..	5.95	..	..	12	
183	Mansfield	..	..	..	81	4	21	29	..	49.4	5.84	2	..	13	*a b*
139	Middleboro'	59.2	39.6	19.2	83	4	19	29	49.4	..	5.70	..	..	12	*g*
140	Milton	58.8	41.7	17.1	77	4	25	29	50.2	..	6.30	2	..	10	
141	Monson	59.7	37.6	22.1	83	4	20	29	48.6	..	4.18	2	..	6	
173	Nahant	55.7	44.7	11.0	76	2	28	29	50.2	..	..	..	..	..	*g*
146	Nantucket	56.3	48.5	7.8	68	3	36	29	53.4	..	4.96	..	..	13	
147	New Bedford (*a*)	56.4	41.9	14.5	73	4	24	29	49.2	49.7	6.97	..	..	9	*b*
148	" " (*b*)	58.0	42.3	15.7	75	4	24	29	50.2	..	6.41	..	..	13	
149	Newburyport (*a*)	58.9	41.2	17.7	82	3	23	29	50.1	49.2	4.32	T	..	10	*b*
152	Northampton	59.4	41.5	17.9	81	4	28	29	50.4	..	2.76	..	..	5	
153	Plymouth	..	..	..	75	3	30	29	..	51.8	5.72	..	..	10	*a b*
154	Princeton	57.7	37.9	19.8	84	4	21	29	47.8	..	3.31	..	..	5	
155	Provincetown	57.5	46.3	11.2	74	4	33	29	51.9	..	5.82	..	..	9	
190	Savoy	51.0	32.7	18.3	80	4	22	12	41.8	..	2.00	T	..	4	
160	South Hingham	..	39.7	..	..	..	26	25	..	..	6.22	..	..	12	
161	Springfield	58.6	41.0	17.6	85	4	26	29	49.8	50.3	3.39	..	..	7	*b*
162	Swampscott	..	..	..	..	..	..	..	..	..	..	..	..	..	
163	Taunton (*a*)	..	..	..	..	..	..	..	..	..	..	..	..	..	
164	" (*b*)	..	..	..	..	..	..	..	..	..	..	..	..	..	
165	" (*c*)	60.3	39.0	21.3	85	4	19	29	49.6	..	5.15	..	..	13	
184	" (*d*)	61.9	39.6	22.3	91	4	23	29	50.8	..	5.80	1	..	10	*g*
181	Wakefield	59.1	39.9	19.2	84	4	20	29	49.5	..	4.66	1	..	7	
168	Wellesley	..	..	..	..	..	..	..	..	..	..	..	..	..	
169	Westboro'	61.6	41.2	20.4	87	4	18	29	51.6	..	2.95	2	..	9	*a*
170	Williamstown	54.9	38.4	16.5	78	4	22	29	46.7	45.8	1.80	T	..	5	*b*

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	58.1	48.1	10.0	74	5	34	29	53.1	. .	7.33	. .	. .	11	
202	Bristol	58.3	45.2	13.1	74	4	27	29	51.8	50.6	3.68	1	. .	10	*b*
210	Kingston (*a*) . .	58.5	41.1	17.4	80	4	22	29	49.8	. .	6.12	1	. .	9	
211	" (*b*) . .	57.9	48.2	9.7	78	4	24	29	53.0	49.7	6.22	1	. .	7	*b*
204	Newport	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
205	Olneyville . . .	59.8	46.1	13.7	81	4	30	29	53.0	. .	. .	. .	. .	. .	
207	Providence (*a*) .	59.5	43.5	16.0	81	4	28	29	51.5	51.3	4.70	2	. .	10	*c*
208	" (*b*) .	60.9	40.7	20.2	85	4	23	29	50.8	. .	4.87	1	. .	12	
212	" (*c*) .	58.4	43.0	15.4	81	4	26	29	50.7	. .	4.94	1	. .	11	
	Connecticut.														
221	Canton	59.2	41.6	17.6	83	4	20	29	50.4	. .	2.65	. .	. .	3	
222	Colchester . . .	59.8	40.7	19.1	85	4	23	29	50.3	. .	4.96	3	. .	9	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
257	Mansfield	58.4	39.1	19.3	84	4	20	29	48.8	48.3	4.14	4	. .	9	*b*
226	Middletown . .	59.2	41.1	18.1	83	4	24	29	50.2	49.3	4.24	T	. .	9	*b*
228	New Haven . .	59.9	41.6	18.3	83	5	26	29	50.8	. .	4.62	. .	. .	8	
229	New London . .	58.8	44.1	14.7	83	5	27	29	51.4	. .	6.50	2	. .	10	
250	N. Grosvenor Dale	57.8	48.7	9.1	80	4	35	29	53.2	53.7	3.33	. .	. .	9	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	55.8	42.4	13.4	80	4	23	29	49.1	47.6	. .	. .	. .	. .	*a b*
233	Voluntown . . .	. .	. .	. .	83	4	22	29	. .	. .	6.82	. .	. .	8	
235	Waterbury . . .	59.0	39.2	19.8	83	4, 5	21	29	49.1	. .	3.04	T	. .	6	
	New York.														
251	Albany	58.4	41.9	16.5	86	4	24	29	50.2	. .	2.13	. .	. .	8	
252	Boyd's Corner .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
253	Carmel	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
254	New York (*a*) .	. .	. .	. .	86	5	35	29	. .	54.7	2.60	. .	. .	8	*e*
255	" " (*b*) .	61.5	46.9	14.6	83	6	34	28	54.2	. .	2.69	. .	. .	10	
258	Poughkeepsie . .	61.5	36.7	24.8	86	3	18	27	49.1	. .	1.79	. .	. .	5	
256	Setauket	59.6	46.5	13.1	82	5	31	29	53.1	52.8	6.60	. .	. .	9	*b*

STATIONS REPORTING PRECIPITATION ONLY.—OCTOBER, 1891.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	2.44	. .	179	Robert's Dam, Mass.	3.86	. .
40	Lake Village, " . .	2.43	. .	159	Salem, "	5.45	. .
44	Mine Falls, " . .	2.50	. .	166	Waltham, "	4.34	. .
48	Pennichuck Station, " . .	2.22	. .	171	Winchester, "	4.53	. .
53	Weir's Bridge, " . .	2.29	. .	203	Lonsdale, R. I.	4.64	. .
55	Wolfboro', " . .	3.67	. .	206	Pawtucket, "	4.22	3
75	Cornwall, Vt. . . .	. .	. .	247	Falls Village, Conn.	1.60	T
187	Ashland, Mass. . .	3.96	2	224	Hartford (*b*), "	3.57	. .
107	Boston (*b*), " . . .	5.50	. .	225	Lake Konomoc, "	6.50	. .
111	Chicopee, " . . .	3.73	. .	249	Lebanon, "	4.85	. .
112	Clinton, " . . .	2.85	. .	227	New Hartford, "	2.41	. .
119	Fiskdale, " . . .	3.66	. .	241	Newington, "	3.89	. .
130	Leominster, " . . .	3.41	1	246	No. Woodstock, "	3.60	. .
138	Medford, " . . .	3.40	. .	248	So. Manchester, "	3.81	. .
142	Mt. Nonotuck, " . . .	2.69	. .	238	Stevenson, "	3.84	. .
143	Mystic Lake, " . . .	4.94	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta., " . . .	5.05	. .	234	Wallingford, "	4.22	. .
150	Newburyport (*b*), " . . .	3.14	. .	245	W. Simsbury, "	2.45	. .
156	Randolph, " . . .	6.00	T	257	S. E. Reservoir, N. Y.	. .	. .

Notes.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}$ (7+2+9+9). *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a corrction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Mean for 30 days. *h*—Maximum on 25th, 26th, 29th. *i*—Mean for 29 days.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	New Brunswick.														
1	St. John	42.9	31.8	11.1	56	11	8	30	37.4	37.1	3.74	1	0	11	*c*
	Maine.														
2	Bar Harbor . .	45.4	31.8	13.6	60	1	6	30	38.6	. .	3.12	T	0	7	
3	Belfast	. .	. .	. .	56	12	6	30	. .	37.0	3.02	2	2	8	*a c*
20	Bethel	. .	. .	. .	. .	. .	. .	. .	. .	. .	2.12	2	0	4	
14	Calais	45.5	30.3	15.2	60	11	7	30	37.9	. .	3.88	2	1	6	
19	East Machias .	45.3	28.4	16.9	58	12	5	30	36.9	. .	4.58	T	T	7	
4	Eastport	43.5	33.3	10.2	58	11	7	30	38.4	. .	2.31	. .	. .	10	
5	Fairfield	46.1	24.8	21.3	60	18	—2	30	35.5	. .	2.14	1	1	8	
18	Farmington . .	46.4	21.4	25.0	65	12	—6	30	33.9	. .	2.69	1	1	6	
7	Kent's Hill . . .	42.7	26.8	15.9	57	12	—2	30	34.8	. .	1.79	3	. .	6	*g*
8	Lewiston	43.6	26.2	17.4	57	12	2	30	34.9	35.6	2.66	3	1	10	*e*
9	Mayfield	. .	. .	. .	54	11, 17	—6	30	. .	30.8	2.91	4	2	9	*a b*
10	Orono	45.6	28.6	17.0	61	12	3	30	37.1	36.9	2.88	. .	1	8	*b*
11	Petit Menan . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*a b*
12	Portland	44.8	31.3	13.5	56	12	6	30	38.0	. .	2.38	T	. .	8	
15	West Jonesport	. .	. .	. .	56	1	7	30	. .	38.6	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	41.6	20.2	21.4	60	17	-12	30	30.9	. .	. .	. .	. .	. .	
34	Berlin Mills . .	44.4	19.8	24.6	61	17	-12	29	3.21	. .	2.46	3	3	9	
37	Concord	45.3	28.0	17.3	63	17	4	30	36.6	. .	1.73	1	0	7	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	41.8	26.1	15.7	62	17	—5	30	34.0	32.9	2.00	2	. .	7	*b*
58	" (*b*) . .	. .	24.2	. .	. .	. .	—8	30	. .	33.3	2.08	. .	. .	6	*d*
59	Littleton	44.1	23.3	20.8	63	17	—9	30	33.7	32.2	2.17	5	3	8	*b*
42	Manchester (*b*)	47.7	28.5	19.2	65	17	5	30	38.6	39.0	1.86	1	0	8	*b*
43	" (*c*)	46.8	29.1	17.7	65	17	6	30	38.0	. .	1.74	4	0	8	
45	Nashua	48.2	28.0	20.2	66	17	4	30	38.1	38.2	2.18	1	0	7	*c*
57	Newton	47.3	27.9	19.4	65	17	4	30	37.6	. .	1.91	. .	0	5	*h*
47	North Conway .	44.4	22.4	22.0	62	1	—1	30	33.4	. .	1.56	3	1	4	
49	Plymouth . . .	42.9	21.7	21.2	60	17	2	30	32.3	31.0	3.26	4	1	8	*b*
51	Stratford	45.3	24.3	21.0	64	17	-10	30	34.8	. .	2.62	5	. .	7	
52	Walpole	44.8	24.4	20.4	62	11, 17	8	30	34.6	. .	2.62	2	. .	9	
54	West Milan . .	45.9	18.6	27.3	66	9	-12	30	32.2	. .	2.67	4	2	12	
	Vermont.														
71	Brattleboro' (*a*)	46.2	27.8	18.4	62	1	2	30	34.6	35.6	2.87	1	. .	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	47.4	30.8	16.6	66	11	0	30	39.1	38.0	27.3	4	3	11	*c*
74	Chelsea	. .	. .	. .	54	17	—7	30	. .	29.6	2.46	4	3	10	*a b*
90	Enosburgh Falls	44.8	26.2	18.6	65	17	—9	30	35.5	. .	3.25	4	4	10	
88	Hartland . . .	44.1	22.0	22.1	63	17	—6	30	33.0	. .	2.65	4	2	12	
77	Jacksonville . .	45.1	22.6	22.5	61	8	0	30	33.8	31.3	4.10	2	T	10	*c*
78	Lunenburgh . .	44.4	28.5	15.9	67	17	—8	30	36.4	36.4	2.50	2	2	8	*b*
82	Northfield . . .	41.5	23.6	17.9	62	17	-14	30	32.6	. .	2.38	. .	3	10	
87	Saxton's River .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
83	Strafford	. .	. .	. .	56	17	—4	30	. .	34.4	2.05	4	3	7	*a b*
85	Vernon	. .	. .	. .	60	11	0	30	. .	38.4	2.80	1	. .	5	*a c*
89	Weathersfield .	43.1	23.9	19.2	58	*i*	—5	29	33.5	. .	. .	. .	. .	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	in.	in.	in.		
	Massachusetts.														
192	Adams	50.0	28.2	21.8	68	11	2	30	39.1	. .	. .	. .	. .	. .	
101	Amherst (*a*) . .	. .	. .	. .	64	17	4	30	. .	38.3	2.71	. .	. .	. .	*b*
102	" (*b*) . .	47.8	27.7	20.1	63	11	4	30	37.8	37.0	1.98	2	0	8	*b*
177	" (*c*) . .	49.7	26.6	23.1	64	11	4	30	38.1	39.7	2.99	. .	. .	8	*e*
180	Andover . . .	47.6	29.3	18.4	66	12	5	30	38.5	37.3	2.79	. .	. .	11	*b*
104	Blue Hill (sum't)	46.0	31.1	14.9	62	12	6	30	38.5	37.6	2.92	T	0	7	*d*
105	" " (base)	48.3	30.6	17.7	65	11	8	30	39.4	. .	2.91	. .	. .	. .	
174	" " (valley)	49.1	28.5	20.6	67	11	9	30	38.8	. .	2.56	. .	. .	. .	
106	Boston (*a*) . . .	48.2	34.6	13.6	66	17	9	30	41.4	. .	2.35	. .	. .	9	
108	Cambridge (*a*) .	46.6	30.5	16.1	64	11	8	30	38.6	. .	2.22	. .	. .	6	
109	" (*b*) .	47.7	29.8	17.9	65	11	9	30	38.8	. .	3.08	. .	. .	6	
110	Chestnut Hill .	50.7	32.0	18.7	66	12	10	30	41.4	. .	2.70	. .	. .	7	
182	Concord	48.0	25.0	23.0	66	17	6	30	36.5	36.2	2.65	T	. .	10	*f*
114	Cotuit	47.1	34.7	12.4	57	11	20	*j*	40.9	. .	1.72	. .	0	9	*j*
116	Deerfield	. .	. .	. .	64	11	4	30	. .	36.2	. .	. .	. .	. .	*a b*
117	Dudley	49.4	28.3	21.0	65	17	8	30	38.8	. .	1.35	. .	0	5	
193	Egg Rock, Nahant	46.2	34.1	12.1	61	17	10	30	40.2	. .	. .	. .	. .	. .	
120	Fitchburg (*a*) .	. .	. .	. .	60	11	7	30	. .	36.7	2.97	T	0	9	*a b*
121	" (*b*) .	46.9	28.7	18.2	63	12	5	30	37.8	. .	2.68	1	0	8	
186	Florida (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
188	" (*b*) . .	40.5	24.1	16.4	58	17	—3	30	32.3	. .	3.00	6	. .	7	
122	Framingham . .	49.8	28.2	21.6	66	17	6	30	39.0	. .	3.04	. .	0	8	
123	Gilbertville . . .	46.4	24.5	21.9	64	11	3	30	35.4	. .	2.31	1	0	7	*m*
124	Groton	48.5	30.2	18.3	65	17	5	30	39.4	. .	2.15	2	0	8	
189	Hoosac Tunnel .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green .	47.3	32.7	14.6	64	11	8	30	40.0	. .	2.59	. .	. .	5	
127	Lake Cochituate	52.2	27.2	25.0	68	12	4	30	39.7	. .	2.86	. .	. .	6	*m*
128	Lawrence . . .	48.9	29.6	19.3	64	17	7	30	39.8	. .	2.29	. .	0	6	
129	Leicester	47.6	27.3	20.3	56	12	2	30	37.4	. .	2.55	. .	. .	. .	
131	Long Plain . . .	47.0	33.4	13.5	64	22	12	30	40.2	. .	4.07	. .	0	11	*a*
133	Lowell (*b*) . .	47.6	30.2	17.5	64	17	7	30	38.9	. .	1.91	. .	0	8	
136	" (*c*) . . .	. .	28.9	. .	66	17	4	30	. .	. .	. .	. .	. .	. .	
176	" (*d*) . . .	48.8	30.3	18.5	67	12	6	30	39.4	. .	. .	. .	. .	6	
134	Ludlow	46.9	25.8	21.1	63	11	0	30	36.3	. .	3.00	T	0	8	
135	Lynn	42.5	27.8	14.7	59	17	5	30	35.2	. .	2.31	. .	. .	12	
183	Mansfield	. .	. .	. .	65	11	8	30	. .	38.7	3.08	. .	. .	10	*a b*
139	Middleboro' . .	50.9	29.8	21.1	66	11, 17	9	30	35.4	. .	3.04	. .	. .	12	
140	Milton	51.1	32.8	18.3	68	11	11	30	42.0	. .	2.88	. .	. .	5	
141	Monson	48.8	26.5	22.3	65	23	4	30	37.6	. .	2.36	. .	. .	8	
173	Nahant	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
146	Nantucket . . .	48.2	39 2	9.0	60	12	24	30	43.7	. .	1.02	. .	. .	12	
147	New Bedford (*a*)	48.0	32.4	15.6	61	17	9	30	40.2	40.9	3.17	. .	0	. .	*b*
148	" " (*b*)	49.8	33.0	16.8	63	17	11	30	41.4	. .	3.07	. .	0	12	
149	Newburyport (*a*)	48.6	31.8	16.8	66	17	8	30	40.2	39.7	2.34	T	. .	8	*b*
152	Northampton .	45.5	30.5	15.0	58	*k*	7	30	38.0	. .	2.80	. .	. .	5	*k*
153	Plymouth . . .	. .	. .	. .	67	17	14	30	. .	42.4	1.79	. .	. .	7	*a b*
154	Princeton . . .	47.0	27.3	19.7	62	13	3	30	37.2	. .	2.70	. .	. .	6	*l*
155	Provincetown .	48.2	37.3	10.9	60	17	23	30	42.7	. .	1.52	T	0	4	
190	Savoy	41.7	19.5	22.2	58	17	—1	30	30.6	. .	6.07	. .	2	7	
160	South Hingham	. .	29.6	. .	. .	. .	8	30	. .	. .	2.94	. .	. .	5	
161	Springfield . . .	47.3	31.0	16.3	63	11, 17	6	30	39.2	39.8	3.00	0	. .	7	*b*
162	Swampscott . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*) . .	50.8	31.7	19.1	65	12, 17	10	30	41.2	40.4	3.02	. .	0	10	*b*
164	" (*b*) . .	49.6	30.8	18.8	66	11	9	30	40.2	. .	3.16	. .	. .	11	
165	" (*c*) . .	50.7	29.0	21.7	66	12	10	30	39.8	. .	3.40	. .	. .	11	
184	" (*d*) . .	49.7	30.0	19.7	68	17	9	30	39.8	39.1	2.99	. .	0	7	*b*
181	Wakefield . . .	49.2	29.1	20.1	65	1, 17	6	30	39.2	. .	2.52	T	0	7	
168	Wellesley . . .	47.9	30.0	17.9	64	1	7	30	39.0	. .	2.72	. .	. .	5	
169	Westboro' . . .	48.8	30.7	18.1	65	12, 17	8	30	39.8	. .	2.80	. .	. .	7	
170	Williamstown .	45.9	26.7	19.2	62	17	2	30	36.3	35.6	1.80	. .	T	7	*b*

No.	STATION.	TEMPERATURE.									PRECIPITATION.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	48.1	38.6	9.5	61	17	19	30	43.4	. .	2.89	. .	. .	10	
202	Bristol	48.5	35.1	13.4	61	17	11	30	41.8	41.5	2.52	. .	0	10	*b*
210	Kingston (*a*) . .	48.5	32.0	16.5	62	17	10	30	40.2	. .	2.83	0	0	10	
211	" (*b*) . .	47.8	32.3	15.5	62	17	9	30	40.0	40.3	2.99	. .	0	8	*b*
204	Newport	50.8	35.8	15.0	60	17	16	30	43.3	. .	. .	. .	. .	. .	
205	Olneyville . . .	50.7	36.6	14.2	68	17	13	30	43.6	. .	. .	. .	. .	. .	
207	Providence (*a*) .	48.4	34.4	14.0	66	17	12	30	41.4	41.6	2.84	. .	. .	9	*c*
208	" (*b*) .	49.3	31.3	18.0	63	12	9	30	40.3	. .	2.74	. .	0	8	
211	" (*c*) .	45.8	32.3	13.5	63	17	10	30	39.0	. .	2.95	0	0	9	
	Connecticut.														
221	Canton	47.1	31.0	16.1	62	11	5	30	39.0	. .	3.81	. .	. .	5	
222	Colchester . . .	50.1	30.9	19.2	66	12	8	30	40.5	. .	3.64	. .	. .	6	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
257	Mansfield	48.3	29.3	19.0	62	17	5	30	38.8	38.2	3.09	. .	. .	8	*b*
226	Middletown . .	49.4	31.2	18.2	64	17	8	30	40.3	39.5	3.00	. .	. .	9	*b*
228	New Haven . .	48.9	32.8	16.1	62	12	9	30	40.8	. .	2.21	T	. .	8	
229	New London . .	47.9	34.4	13.5	61	17	10	30	41.2	. .	3.37	T	. .	12	
250	N.Grosvenor Dale	48.9	37.7	11.2	63	17	12	30	43.3	42.8	3.25	. .	. .	8	*b*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	46.0	32.4	13.6	64	12	5	30	39.2	37.9	. .	. .	0	2	*a b*
233	Voluntown . . .	50.2	31.0	19.2	66	1	9	30	40.6	39.6	3.57	0	0	7	*b*
235	Waterbury . . .	47.3	26.7	20.6	60	11, 12	5	30	37.0	. .	3.33	. .	0	8	
	New York.														
251	Albany	46.4	31.3	15.1	64	17	6	30	38.8	. .	2.40	. .	. .	11	
252	Boyd's Corner .	. .	. .	. .	63	12	9	30	. .	41.0	3.86	0	. .	7	*a b*
253	Carmel	48.5	29.5	19.0	64	12	6	30	39.0	. .	3.57	. .	. .	7	
254	New York (*a*) .	. .	. .	. .	64	17	14	30	. .	44.3	2.30	. .	0	7	*e*
255	" " (*b*) .	50.3	37.3	13.0	64	17	10	30	43.8	. .	2.06	. .	. .	9	
258	Poughkeepsie . .	50.0	27.4	22.6	65	12	6	30	38.7	. .	2.09	. .	0	5	
256	Setauket	50.1	37.1	13.0	63	17	16	30	43.6	43.0	2.24	T	. .	7	*b*

STATIONS REPORTING PRECIPITATION ONLY.—NOVEMBER, 1891.

No.	STATION.	Total Precip.	Snow-fall.	No.	STATION.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	2.29	. .	179	Robert's Dam, Mass.	2.57	. .
40	Lake Village, " . .	2.43	. .	159	Salem. "	1.93	. .
44	Mine Falls, " . .	2.19	. .	166	Waltham, "	2.67	. .
48	Pennichuck Station, " . .	2.11	. .	171	Winchester, "	2.43	. .
53	Weir's Bridge, " . .	2.20	. .	203	Lonsdale, R. I.	2.64	. .
55	Wolfboro', " . .	1.56	. .	206	Pawtucket, "	2.40	. .
75	Cornwall, Vt. . . .	2.33	. .	247	Falls Village, Conn.	3.11	T
187	Ashland, Mass. . .	3.14	. .	224	Hartford (*b*), "	2.64	. .
107	Boston (*b*), " . . .	2.65	. .	225	Lake Konomoc, "	3.22	. .
111	Chicopee, " . . .	2.56	. .	249	Lebanon, "	3.46	. .
112	Clinton, " . . .	1.72	. .	227	New Hartford, "	3.56	T
119	Fiskdale, " . . .	2.67	. .	241	Newington, "	3.14	. .
130	Leominster, " . . .	2.64	. .	246	No. Woodstock, "	3.00	. .
138	Medford, " . . .	2.33	. .	248	So. Manchester, "	2.66	. .
142	Mt. Nonotuck, " . . .	2.50	1	238	Stevenson, "	4.06	T
143	Mystic Lake, " . . .	2.78	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta.," . . .	2.50	. .	234	Wallingford, "	2.87	. .
150	Newburyport (*b*), " . . .	2.42	. .	245	W. Simsbury, "	3.26	. .
156	Randolph, " . . .	2.86	. .	257	S. E. Reservoir, N. Y.	3.36	. .

NOTES.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a corrction anplied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Mean minimum for 28 days. *h*—Mean for 29 days. *i*—Maximum on 11th, 12th, 17th. *j*—Minimum on 19th, 29th, 30th. *k*—Maximum on 1st. 17th, 23d, 24th. *l*—Mean for 28 days. *m*—Mean for 29 days.

Number.	Station.	Temperature.									Precipitation.				Reference letter to Notes.
									Mean.			Snowfall.			
		Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Date.	Minimum.	Date.	From Max. and Min.	From Tri-daily Observations.	Total, including Melted Snow.	Total.	On ground at end of Month.	No. of days with precipitation.	
		1 °	2 °	3 °	4 °	5	6 °	7	8 °	9 °	10 in.	11 in.	12 in.	13	14
	New Brunswick.														
1	St. John	38.2	26.1	12.1	49	24	7	17	32.1	31.6	3.51	3	0	9	*c*
	Maine.														
2	Bar Harbor . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
3	Belfast	. .	. .	. .	49	23	6	17	. .	32.2	5.10	4	0	10	*a c*
20	Bethel	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0	5	
14	Calais	40.2	24.8	15.4	53	4	6	17	32.5	. .	3.74	5	. .	9	
19	East Machias .	40.9	23.6	17.3	51	5	5	17	32.3	. .	3.81	4	T	9	
4	Eastport	38.6	27.4	11.2	52	5	7	17	33.0	. .	2.99	. .	. .	11	
5	Fairfield	40.4	19.4	21.0	53	5	—5	18	29.9	. .	45.6	4	0	10	
18	Farmington . .	39.9	18.1	21.8	55	13	—8	31	29.0	. .	5.64	6	T	9	
7	Kent's Hill . . .	41.1	23.0	17.1	50	5	—1	17	32.0	. .	5.57	5	. .	7	
8	Lewiston	39.3	22.5	16.8	52	4	1	17	30.9	31.7	5.27	4	0	11	*b*
9	Mayfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
10	Orono	39.8	22.1	17.7	52	5	2	18	30.9	31.6	4.76	. .	2	9	*b*
11	Petit Menan . .	. .	. .	. .	46	4	8	13	. .	33.3	. .	. .	. .	. .	*a b*
12	Portland	42.5	28.6	13.9	56	10	8	17	35.5	. .	4.17	2	. .	12	
15	West Jonesport	. .	. .	. .	48	6	8	17	. .	34.0	. .	. .	. .	. .	*a b*
	New Hampshire.														
33	Berlin Falls . .	37.2	17.5	19.7	51	23	—6	18	27.4	. .	. .	. .	. .	. .	
34	Berlin Mills . .	38.6	17.4	21.2	53	5	—5	17	28.0	. .	4.56	7	. .	11	
37	Concord	42.9	26.5	16.4	56	23	5	17	34.7	. .	4.11	2	0	8	
60	Grafton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	Hanover (*a*) . .	. .	24.6	. .	. .	. .	. .	. .	. .	29.5	28.9	2	0	7	*b*
58	" (*b*) . .	42.7	20.5	22.2	59	10	0	17	31.6	30.4	3.32	. .	. .	5	*d*
59	Littleton	37.4	21.5	15.9	54	4	—5	17	29.4	29.0	3.71	6	2	9	*b*
42	Manchester (*b*)	45.4	25.9	19.5	59	10	9	17, 18	35.6	34.2	3.64	2	0	9	*b*
43	" (*c*)	44.7	27.4	17.3	60	10	8	17	36.0	. .	3.27	2	0	11	
45	Nashua	46.3	26.6	19.7	59	24	9	18	36.4	36.4	3.50	1	0	10	*c*
57	Newton	45.9	26.8	19.1	58	24	7	17	36.4	. .	3.16	T	0	11	*g*
47	North Conway .	41.0	20.8	20.2	56	10	—1	17	30.9	. .	6.60	8	. .	7	
49	Plymouth . . .	39.4	20.6	18.8	54	10	—1	17	30.0	30.1	5.45	5	0	10	*b*
51	Stratford	39.8	22.7	17.1	53	10	—5	17	31.2	. .	3.46	6	2	8	
52	Walpole	41.5	22.9	18.6	57	10	3	1	32.2	. .	3.60	3	. .	8	
54	West Milan . .	39.2	18.5	20.7	55	10	—7	18	28.8	. .	4.30	. .	2	12	
	Vermont.														
71	Brattleboro' (*a*)	43.6	26.6	17.0	58	10	8	17	35.1	34.2	4.95	2	0	. .	*c*
72	" (*b*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
73	Burlington . . .	41.9	27.8	14.1	55	4, 5	0	17	34.8	34.3	2.23	8	0	10	*c*
74	Chelsea	. .	. .	. .	46	10	—8	17	. .	28.1	3.31	6	T	9	*a b*
90	Enosburgh Falls	40.3	23.3	17.0	54	5	—4	17	31.8	31.8	4.02	5	2	8	*f*
88	Hartland . . .	41.3	21.0	20.3	56	10	2	17	31.2	. .	5.34	7	0	11	
77	Jacksonville . .	41.6	21.6	20.0	56	3, 10	2	18	31.6	. .	6.56	T	0	13	*c*
78	Lunenburgh . .	37.0	24.3	12.7	50	10	—2	18	30.6	31.0	2.33	6	2	9	*b*
82	Northfield . . .	39.5	21.8	17.7	54	23	—4	17	30.6	. .	2.63	. .	0	11	
87	Saxton's River .	45.3	24.0	21.3	54	25	7	17	34.6	33.3	5.10	. .	. .	9	*b*
83	Strafford	. .	. .	. .	48	4, 6	—2	17	. .	31.2	3.50	7	T	8	*a b*
85	Vernon	. .	. .	. .	54	4, 23	8	17	. .	34.6	3.89	.2	. .	8	*a c*
89	Weathersfield .	39.3	23.2	16.1	53	10	—2	17	31.2	. .	. .	. .	0	. .	

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		°	°	°	°		°		°	°	*in.*	*in.*	*in.*		
	Massachusetts.														
192	Adams	48.5	27.7	20.8	61	23, 24	7	17	38.1	. .	. .	. .	0	. .	
101	Amherst (*a*)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*b*
102	“ (*b*)	46.3	27.3	19.0	58	4	9	17	36.8	35.9	4.55	0	0	10	*b*
177	“ (*c*)	47.5	26.3	21.2	60	3	9	17	36.9	38.3	5.40	. .	. .	10	*e*
180	Andover	43.0	28.7	14.3	59	3	8	17	35.8	34.9	3.16	0	0	8	*b.*
104	Blue Hill (sum't)	45.9	29.5	16.4	59	23	7	17	37.7	36.2	4.07	T	0	11	*d*
105	“ “ (base)	48.3	30.1	18.2	62	23	10	17	39.2	. .	3.98	. .	. .	. .	
174	“ “ (valley)	48.5	28.4	20.1	62	23	11	17	38.4	. .	4.04	. .	. .	. .	
106	Boston (*a*)	47.5	33.4	14.1	64	23	11	17	40.4	. .	3.58	T	0	12	
108	Cambridge (*a*)	45.2	29.4	15.8	59	23	9	18	37.3	. .	3.29	T	0	10	
109	“ (*b*)	45.8	29.2	16.6	61	23	10	17	38.0	. .	6.78	. .	. .	12	
110	Chestnut Hill	48.2	30.3	17.9	64	23	12	18	39.2	. .	3.73	. .	. .	10	
182	Concord	46.2	26.0	20.2	61	23	10	17	36.1	35.6	3.03	1	. .	10	*f*
114	Cotuit	45.5	32.3	13.2	62	23	11	18	38.9	. .	3.77	0	0	7	
116	Deerfield	. .	. .	. .	58	10	10	18	. .	35.0	. .	0	. .	. .	*a b*
117	Dudley	44.5	27.6	16.9	60	3	6	17	36.0	. .	2.40	. .	. .	12	
193	Egg Rock, Nahant	45.2	31.0	14.2	55	23, 24	10	18	38.1	. .	. .	. .	. .	. .	
120	Fitchburg (*a*)	. .	. .	. .	56	23	8	17	. .	35.6	4.26	1	0	11	*a b*
121	“ (*b*)	45.7	27.5	18.2	60	3	7	17	36.6	. .	4.02	1	0	9	
186	Florida (*a*)	37.5	23.3	14.2	51	23	—1	18	30.4	. .	4.80	. .	. .	10	
188	“ (*b*)	38.4	23.3	15.1	52	23	1	8	30.8	. .	5.34	4	. .	10	
122	Framingham	48.8	26.8	22.0	67	4	8	18	37.8	. .	3.76	. .	. .	11	
123	Gilbertville	44.8	23.4	21.4	67	24	8	18	34.2	. .	5.44	. .	0	12	
124	Groton	45.0	29.1	16.0	59	23	8	17	37.0	. .	3.89	1	0	11	
189	Hoosac Tunnel	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
178	Kendal Green	43.9	32.6	11.3	56	*h*	15	18	38.2	. .	3.27	1	. .	9	*h*
127	Lake Cochituate	49.9	26.6	23.3	63	23	11	1	38.2	. .	3.33	. .	. .	11	
128	Lawrence	46.0	27.9	18.8	57	23, 24	9	18	37.0	. .	3.23	1	0	9	
129	Leicester	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
131	Long Plain	46.0	32.9	13.1	60	6, 23	9	18	39.4	. .	5.02	. .	0	13	*a*
133	Lowell (*b*)	44.8	28.5	16.3	57	23	10	18	36.6	. .	3.21	. .	0	10	
136	“ (*c*)	45.6	27.7	17.9	59	23	9	18	36.6	. .	. .	. .	0	. .	
176	“ (*d*)	45.4	28.5	16.9	59	23	9	17, 18	36.4	. .	. .	. .	. .	. .	
134	Ludlow	45.2	24.5	20.7	57	3, 4	4	18	34.8	. .	4.85	. .	0	13	
135	Lynn	43.0	28.5	14.5	58	23	7	18	35.8	. .	3.41	. .	. .	11	
183	Mansfield	. .	. .	. .	62	23	11	18	. .	37.8	4.62	. .	. .	12	*a b*
139	Middleboro'	49.4	26.1	23.3	61	23	7	18	37.8	. .	3.45	. .	0	10	
140	Milton	48.9	30.8	18.1	60	23	11	17	39.8	. .	4.00	. .	. .	10	
141	Monson	45.9	27.9	18.0	61	23	6	17, 18	36.9	. .	4.20	. .	0	13	
173	Nahant	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
146	Nantucket	46.8	36.0	10.8	56	9	14	18	41.4	. .	3.14	. .	. .	11	
147	New Bedford (*a*)	46.4	30.1	16.3	58	23	8	18	38.3	39.1	3.38	. .	. .	7	*b*
148	“ “ (*b*)	49.2	32.4	16.8	58	*i*	9	18	41.8	. .	3.71	0	0	12	*i*
149	Newburyport (*a*)	47.4	30.2	17.2	59	23	11	18	38.8	37.9	3.27	1	0	10	*b*
152	Northampton	44.5	29.4	15.1	55	24	10	17, 18	37.0	. .	4.72	. .	. .	9	
153	Plymouth	. .	. .	. .	63	23	14	18	. .	41.3	3.77	. .	. .	10	*a b*
154	Princeton	45.6	26.1	19.5	58	3	4	17, 18	35.8	. .	2.16	. .	. .	6	
155	Provincetown	46.7	33.9	12.8	55	23	14	17	40.3	. .	3.15	T	0	10	
190	Savoy	. .	. .	. .	51	23	. .	. .	. .	. .	7.60	. .	. .	11	
160	South Hingham	. .	29.1	. .	. .	. .	7	18	. .	. .	3.59	. .	. .	12	
161	Springfield	44.8	30.1	14.6	59	4	9	18	37.4	38.1	4.80	0	0	10	*b*
191	Swampscott	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
163	Taunton (*a*)	50.4	30.8	19.6	62	3	11	18	40.6	39.1	3.62	0	0	11	*b*
164	“ (*b*)	49.3	29.9	19.4	60	23	10	17, 18	39.6	. .	3.53	. .	. .	10	
165	“ (*c*)	53.6	29.1	24.5	62	3	10	18	41.4	. .	4.27	. .	. .	9	
184	“ (*d*)	48.5	28.5	20.0	62	3	11	*j*	38.5	38.3	3.21	T	0	8	*b j*
181	Wakefield	48.2	29.1	19.1	60	3	9	17, 18	38.6	. .	3.55	T	0	10	
168	Wellesley	47.8	28.6	19.2	60	23	10	18	38.2	. .	2.59	. .	. .	8	*k*
169	Westboro'	48.1	28.3	19.8	60	24	10	18	38.2	. .	3.25	. .	0	11	
170	Williamstown	43.6	29.1	14.5	56	4	7	17	36.3	35.1	3.59	. .	0	6	*b k*

No.	Station.	Temperature.									Precipitation.				Notes.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rhode Island.														
201	Block Island . .	47.4	36.0	11.4	59	24	12	18	41.7	. .	2.81	. .	. .	11	
202	Bristol	46.6	34.0	12.5	57	3	13	18	40.3	40.0	3.19	. .	0	10	*b*
210	Kingston (*a*) . .	47.6	29.9	17.7	59	6	8	18	38.7	. .	3.99	T	0	10	
211	" (*b*) . .	49.0	30.3	18.7	65	21	7	17, 18	39.8	39.5	3.73	T	0	10	*b*
204	Newport	50.2	34.7	15.5	62	14	12	17	42.4	. .	. .	. .	. .	. .	
205	Olneyville . . .	50.4	35.3	15.1	63	23	13	17, 18	42.8	. .	. .	. .	. .	. .	
207	Providence (*a*) . .	48.6	33.1	15.5	62	23	12	17	40.8	40.8	4.25	. .	. .	9	*c*
208	" (*b*) .	49.5	30.3	19.2	62	23	10	17, 18	39.9	. .	4.15	0	0	11	
212	" (*c*) .	46.7	31.2	15.5	59	23	10	17	39.0	. .	4.53	0	0	10	
	Connecticut.														
221	Canton	44.4	29.7	14.7	57	23	8	18	37.0	. .	5.04	. .	. .	7	
222	Colchester . . .	48.4	30.3	18.1	60	13	8	17	39.3	. .	5.13	0	0	10	
223	Hartford (*a*) . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
257	Mansfield. . . .	46.1	28.1	18.0	59	23	7	17	37.1	37.0	4.96	. .	. .	12	*b*
226	Middletown . .	48.4	29.9	18.5	62	4	10	17	39.4	37.9	5.08	. .	. .	12	*b*
228	New Haven . .	47.3	31.2	16.1	60	23	11	18	39.2	. .	3.74	. .	. .	12	
229	New London . .	46.9	32.4	14.5	58	23	10	18	39.6	. .	3.74	0	. .	12	
250	N.Grosvenor Dale	48.6	31.7	16.9	59	*l*	14	17	40.1	39.6	3.89	. .	0	9	*b l*
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
231	Thompson . . .	42.8	32.3	10.5	55	23	7	17	37.5	36.6	. .	. .	. .	. .	*a b*
233	Voluntown . . .	49.3	29.5	19.8	60	23	9	18	39.9	39.4	3.36	. .	0	8	*b*
235	Waterbury . . .	45.1	24.9	20.2	59	23	6	18	35.0	. .	5.71	. .	. .	10	
	New York.														
251	Albany	44.3	29.6	14.7	61	4	8	17	37.0	. .	3.23	. .	. .	13	
252	Boyd's Corner .	. .	. .	. .	58	23	13	17	. .	39.6	5.65	. .	. .	10	*a b*
253	Carmel	47.0	29.8	17.2	59	13, 23	8	18	38.4	. .	5.14	. .	. .	10	
254	New York (*a*) .	. .	. .	. .	66	23	14	17	. .	42.3	3.55	0	0	8	*e*
255	" " (*b*) .	48.7	34.7	14.0	68	23	14	18	41.7	. .	3.30	. .	0	10	
258	Poughkeepsie . .	49.1	27.4	21.7	61	23	9	18	38.2	. .	3.59	T	. .	10	
256	Setauket	48.8	34 8	14.0	62	23	14	17	41.8	40.8	3.40	. .	. .	7	

STATIONS REPORTING PRECIPITATION ONLY.—DECEMBER, 1891.

No.	Station.	Total Precip.	Snow-fall.	No.	Station.	Total Precip.	Snow-fall.
32	Belmont, N.H. . .	4.27	. .	179	Robert's Dam, Mass.	3.48	. .
40	Lake Village, " . .	4.32	. .	159	Salem, "	3.58	T
44	Mine Falls, " . .	3.58	. .	166	Waltham, "	3.90	. .
48	Pennichuck Station, " . .	3.27	. .	171	Winchester, "	3.20	. .
53	Weir's Bridge, " . .	4.34	. .	203	Lonsdale, R. I.	4.57	. .
55	Wolfboro', " . .	5.11	. .	206	Pawtucket, "	3.77	. .
75	Cornwall, Vt. . . .	1.95	2	247	Falls Village, Conn.	4.88	T
187	Ashland, Mass. . .	3.61	. .	224	Hartford (*b*), "	5.35	0
107	Boston (*b*), " . . .	3.66	. .	225	Lake Konomoc, "	3.58	. .
111	Chicopee, " . . .	5.34	. .	249	Lebanon, "	4.69	. .
112	Clinton, " . . .	3.62	. .	227	New Hartford, "	5.43	T
119	Fiskdale, " . . .	4.62	. .	241	Newington, "	4.79	. .
130	Leominster, " . . .	3.97	. .	246	No. Woodstock, "	. .	. .
138	Medford, " . . .	2.43	. .	248	So. Manchester, "	4.99	0
142	Mt. Nonotuck, " . . .	4.01	T	238	Stevenson, "	6.18	0
143	Mystic Lake, " . . .	3.62	. .	232	Uncasville, "	. .	. .
144	Mystic Pumping Sta., " . . .	3.45	. .	234	Wallingford, "	4.97	. .
150	Newburyport (*b*), " . . .	. .	. .	245	W. Simsbury, "	4.89	T
156	Randolph, " . . .	3.72	T	257	S. E. Reservoir, N. Y.	5.51	. .

Notes.—*a* Maximum and minimum temperatures from thermometers not self-registering. *b*—Tri-daily readings of thermometer at 7 A.M., 2 and 9 P.M.; mean obtained by formula: $\frac{1}{4}(7+2+9+9)$. *c*—Tri-daily readings of thermometer at other hours than 7 A.M., 2 and 9 P.M.; a reduction to these hours applied in calculating the monthly mean (Smithsonian Contributions, Vol. xxi). *d*—Two daily readings of thermometer at 8 A.M. and 8 P.M.; a correction applied in calculating means (see above). *e*—Mean temperature from hourly readings. *f*—Two daily readings of thermometer at 7 A.M. and 7 P.M; a correction applied in calculating means (see above). *g*—Mean for 30 days. *h*—Maximum on 4th, 7th, 23rd. *i*—Maximum on 3rd, 6th, 7th, 23rd. *j*—Minimum on 1st, 17th, 18th. *k*—Mean for 28 days. *l*—Maximum on 4th, 23rd, 26th.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	1.79	. .	. .	*	0.99	. .	. .	. .	. .	. .	0.57	. .	. .
4	Eastport, Me. . .	. .	0.63	0.03	. .	0.06	0.50	0.19	. .	. .	. .	. .	0.64	. .	0.06
2	Bar Harbor	. .	1.16	. .	. .	*	0.11	0.02	. .	. .	. .	*	1.13	. .	0.13
5	Fairfield	. .	0.41	. .	. .	*	*	0.16	. .	. .	. .	*	1.91	. .	0.09
3	Belfast	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	*	0.50	. .	. .	*	*	0.40	. .	. .	. .	*	1.60	. .	*
8	Lewiston	. .	0.41	. .	. .	0.48	0.14	. .	. .	. .	. .	0.10	2.20	. .	0.15
12	Portland	T	0.66	0.04	. .	0.48	0.05	T	. .	. .	. .	0.65	1.66	. .	0.11
51	Stratford, N.H. .	. .	0.80	. .	. .	. .	*	0.13	. .	. .	. .	*	1.65	. .	*
34	Berlin Mills	. .	0.35	. .	. .	. .	0.25	. .	. .	. .	. .	*	1.59	. .	0.50
47	North Conway . .	0.25	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	2.21	. .	0.13
49	Plymouth	*	0.50	. .	. .	. .	. .	. .	. .	. .	. .	0.75	1.51	. .	0.10
39	Hanover	0.35	. .	. .	. .	0.06	T	T	. .	. .	. .	*	1.70	. .	0.05
40	Lake Village . . .	*	0.58	. .	. .	*	0.18	. .	. .	. .	. .	*	2.29	. .	. .
37	Concord	0.03	0.48	. .	. .	0.18	. .	. .	. .	. .	. .	0.67	1.03	. .	0.08
52	Walpole	. .	*	0.43	. .	. .	0.10	. .	. .	. .	. .	*	2.02	. .	0.10
45	Nashua	0.12	0.50	. .	0.01	0.16	T	. .	. .	. .	. .	0.90	0.57	. .	0.05
78	Lunenburgh, Vt. .	. .	*	0.10	0.05	. .	0.20	0.10	. .	. .	. .	1.30	0.20	0.10	T
73	Burlington	0.02	0.03	. .	. .	0.02	*	0.30	. .	. .	. .	*	0.73	. .	0.03
82	Northfield	T	0.24	. .	. .	T	0.02	0.01	. .	. .	. .	0.24	0.76	T	0.06
75	Cornwall	. .	0.21	. .	. .	. .	0.45	. .	. .	. .	. .	*	0.72	. .	. .
74	Chelsea	0.10	0.15	. .	. .	T	0.06	T	. .	. .	. .	*	1.55	. .	0.20
85	Vernon	0.15	0.20	. .	. .	. .	. .	. .	. .	. .	. .	*	2.00	. .	0.05
77	Jacksonville	0.05	0.42	. .	. .	0.13	. .	. .	. .	. .	. .	0.44	1.91	. .	0.16
159	Salem, Mass. . . .	T	1.14	0.11	. .	*	0.43	. .	. .	. .	. .	0.51	0.26	. .	0.01
149	Newburyport . . .	0.06	0.90	0.09	T	*	0.44	. .	. .	. .	. .	0.68	0.43	. .	0.08
104	Blue Hill	0.01	0.98	0.34	T	0.46	T	. .	. .	. .	. .	0.50	0.47	. .	0.02
122	Framingham . . .	*	*	1.35	*	0.10	. .	. .	. .	. .	. .	*	1.18	. .	0.03
120	Fitchburg	0.14	0.41	0.02	. .	0.14	. .	. .	. .	. .	. .	1.02	0.68	. .	0.06
123	Gilbertville	. .	0.65	. .	. .	0.08	. .	. .	. .	. .	. .	0.55	0.60	. .	. .
152	Northampton . . .	—	—	—	—	0.03	. .	. .	. .	. .	. .	1.32	0.59	. .	0.09
134	Ludlow	0.02	0.65	0.30	. .	0.05	. .	. .	. .	. .	. .	0.70	1.30	. .	0.10
155	Provincetown . . .	0.03	1.24	0.23	T	0.58	T	T	. .	. .	. .	0.35	0.14	. .	0.07
146	Nantucket	T	1.15	0.11	. .	0.74	0.02	. .	. .	. .	. .	T	0.26	. .	0.06
114	Cotuit	*	1.86	0.10	. .	0.65	. .	. .	. .	. .	. .	0.52	. .	. .	0.11
153	Plymouth	. .	*	1.66	T	*	0.55	. .	. .	. .	. .	*	1.04	. .	T
148	New Bedford . . .	. .	1.64	0.14	. .	0.36	. .	. .	. .	. .	. .	0.74	. .	. .	0.12
163	Taunton	. .	1.92	0.19	T	0.40	. .	. .	. .	. .	. .	0.58	0.40	. .	0.10
202	Bristol, R. I. . . .	*	*	1.76	*	0.26	. .	. .	. .	. .	. .	*	1.02	. .	0.08
207	Providence	T	. .	1.45	. .	0.40	. .	. .	. .	. .	. .	*	1.35	. .	0.10
201	Block Island	0.09	0.79	0.75	. .	0.23	. .	. .	. .	. .	. .	0.82	. .	0.28	0.07
233	Voluntown, Conn.	0.20	1.45	0.24	. .	0.16	. .	. .	. .	. .	. .	0.96	0.44	. .	0.10
229	New London . . .	0.24	1.25	0.01	. .	0.35	. .	. .	. .	. .	. .	0.65	0.35	. .	0.10
224	Hartford	0.20	0.60	0.38	0.10	. .	. .	. .	. .	. .	. .	1.50	0.42	. .	0.07
234	Wallingford	0.15	1.14	. .	*	0.15	. .	. .	. .	. .	. .	1.05	1.31	. .	. .
235	Waterbury	*	0.76	0.53	. .	0.28	. .	. .	. .	. .	. .	*	2.09	. .	0.07
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	0.02	0.03	0.03	T	0.76	0.02	0.01	. .	. .	. .	0.62	1.02	T	T
258	Poughkeepsie . . .	0.04	0.65	0.59	*	0.37	. .	. .	. .	. .	. .	0.78	0.51	. .	0.07
253	Carmel	0.11	0.98	0.06	*	0.41	. .	. .	. .	. .	. .	0.92	0.89	. .	0.05
255	New York	0.47	0.45	0.02	0.04	0.08	. .	. .	. .	. .	. .	1.04	0.14	T	. .
256	Setauket	0.20	0.82	0.02	T	0.85	. .	. .	. .	. .	. .	1.12	0.15	. .	T

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.20	. .	. .	2.22	0.20	. .	. .	0.16	1.24	. .	0.62	. .	. .	*	0.15	. .	0.32
4	0.11	. .	0.04	1.20	. .	. .	T	0.62	0.14	. .	0.48	. .	0.41	0.09	. .	0.30	. .
2	. .	. .	*	2.06	T	. .	. .	1.62	. .	. .	0.42	. .	0.10	. .	*	0.46	. .
5	. .	. .	*	*	1.70	. .	. .	1.12	. .	. .	0.25	. .	0.17	. .	*	0.31	. .
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	0.20	. .	*	*	1.60	. .	. .	1.42	. .	. .	0.10	. .	*	*	*	0.46	. .
8	0.02	. .	0.77	1.30	0.05	. .	. .	1.41	0.02	. .	0.45	. .	0.13	0.04	0.19	0.24	. .
12	T	. .	0.87	1.10	T	. .	. .	1.06	0.02	. .	0.64	. .	0.06	0.05	0.04	0.23	. .
51	0.14	. .	0.63	. .	0.09	. .	. .	1.08	. .	. .	. .	. .	. .	. .	. .	0.53	. .
34	. .	. .	*	0.85	. .	. .	. .	0.87	. .	. .	. .	. .	0.10	. .	. .	. .	0.07
47	. .	. .	*	*	1.29	. .	. .	1.76	. .	. .	. .	. .	. .	. .	*	0.67	. .
49	. .	. .	0.59	0.37	. .	. .	. .	1.17	. .	. .	0.14	. .	0.13	. .	0.50	. .	0.33
39	. .	. .	0.67	0.28	0.05	. .	*	0.90	. .	. .	. .	. .	0.13	. .	0.14	0.19	*
40	0.11	. .	*	1.46	. .	. .	. .	1.05	. .	. .	0.43	. .	0.15	. .	0 46	. .	. .
37	. .	. .	1.11	0.12	. .	. .	. .	0.77	. .	. .	0.73	. .	0.04	. .	0.40	. .	0.07
52	. .	. .	*	0.88	. .	. .	. .	1.30	. .	. .	0.40	. .	0.05	. .	0.40	. .	. .
45	. .	. .	1.46	0.21	0.02	. .	. .	0.97	. .	. .	1.15	. .	0.04	. .	0.29	0.09	0.07
78	. .	. .	*	0.70	0.10	. .	. .	0.15	. .	. .	0.20	. .	. .	0.10	0.20	0.15	. .
73	0.06	. .	*	0.71	. .	. .	*	0.75	0.01	. .	. .	0.07	0.03	T	0.02	0.02	. .
82	0.02	. .	0.10	0.17	0.02	. .	. .	1.90	0.10	. .	. .	T	0.05	0.02	0.02	0.05	0.01
75	. .	. .	. .	1.20	. .	. .	. .	0.60	. .	. .	. .	. .	0.12	0.30	. .	. .	. .
74	. .	. .	0.32	0.43	T	. .	T	1.16	. .	. .	. .	0.06	0.23	. .	0.15	0.27	T
85	. .	. .	0.25	. .	. .	. .	. .	2.21	. .	. .	1.50	. .	. .	. .	0.76	0.40	*
77	. .	. .	0.32	0.51	. .	. .	0.05	1.53	. .	. .	0.42	T	0.05	. .	0.20	0.40	0.26
159	. .	. .	0.78	0.78	0.05	. .	. .	0.90	. .	. .	0.85	. .	0.02	. .	0.31	. .	0.06
149	. .	. .	0.85	0.76	T	. .	. .	1.06	. .	. .	1.03	T	0.04	. .	0.30	0.12	0.02
104	. .	. .	0.86	0.83	T	. .	. .	1.24	. .	. .	0.62	T	0.03	. .	0.27	0.08	T
122	. .	. .	*	1.93	. .	. .	*	1.09	. .	*	0.91	. .	0.04	. .	*	0.39	. .
120	. .	. .	0.98	0.21	. .	. .	. .	1.44	. .	. .	1.48	. .	0.03	. .	0.25	0.17	0.03
123	. .	. .	*	*	1.41	. .	0.03	1.13	0.03	. .	1.15	. .	. .	. .	0.30	. .	0.60
152	. .	. .	1.32	0.18	. .	. .	0.01	1.64	. .	. .	1.49	. .	0.05	. .	0.45	. .	0.01
134	. .	. .	0.75	0.75	0.05	. .	0.05	1.50	. .	. .	1.00	. .	0.05	. .	0.30	0.20	0.10
155	. .	. .	1.44	0.90	0.03	T	. .	0.64	. .	. .	0.69	. .	0.06	T	0.20	0.02	0.09
146	. .	. .	0.34	1.07	T	. .	. .	0.23	0.05	. .	0.35	. .	. .	. .	0.03	0.10	T
114	. .	. .	*	2.11	. .	. .	. .	0.84	. .	. .	0.96	. .	0.05	. .	0.30	. .	. .
153	. .	. .	T	T	2.95	T	. .	0.86	. .	. .	0.94	. .	0.04	. .	*	0.32	*
148	. .	. .	*	3.58	. .	. .	. .	0.73	. .	. .	. .	0.81	0.05	. .	0.38	. .	0.62
163	. .	. .	*	2.35	. .	. .	. .	1.10	. .	. .	0.90	. .	0.07	. .	0.33	. .	. .
202	. .	. .	*	2.52	0.03	. .	. .	1.10	. .	. .	0.65	. .	0.02	. .	*	0.42	0.20
207	. .	. .	*	*	2.07	. .	. .	1.16	. .	. .	0.90	. .	0.10	. .	*	0.49	0.12
201	. .	. .	0.27	0.66	0.02	. .	. .	0.40	. .	. .	0.16	. .	T	. .	0.18	0.03	T
233	. .	. .	1.18	1.10	0.05	. .	. .	1.30	. .	. .	0.67	. .	0.05	. .	0.30	. .	T
229	. .	. .	0.95	0.55	0.02	. .	. .	0.65	0.01	. .	0.75	. .	0.02	. .	0.35	0.10	0.01
224	. .	. .	1.25	0.67	. .	. .	. .	1.80	. .	. .	1.64	. .	0.10	. .	0.34	0.13	0.06
234	. .	. .	*	*	2.07	. .	1.70	. .	. .	. .	1.28	. .	. .	. .	0.30	. .	*
235	. .	. .	*	1.85	. .	. .	. .	2.20	. .	. .	1.65	. .	0.07	. .	0.46	. .	0.10
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	. .	. .	0.38	0.79	0.01	0.01	. .	1.18	0.01	. .	0.65	T	0.01	. .	0.35	0.20	0.02
258	. .	. .	*	1.14	. .	. .	T	0.98	. .	. .	0.98	0.03	. .	. .	0.28	0.18	0.05
253	. .	. .	0.81	0.66	. .	. .	. .	2.40	. .	. .	1.81	. .	0.11	. .	0.50	. .	. .
255	. .	. .	0.91	0.23	. .	T	. .	0.96	. .	. .	1.13	. .	0.01	0.02	0.16	0.04	0.03
256	. .	. .	1.26	0.10	. .	T	. .	1.00	. .	. .	0.96	. .	T	T	9.21	0.04	0.06

T Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	0.67	. .	0.73	. .	. .	0.42	. .	. .	. .	1.10	. .	. .	. .	. .
4	Eastport, Me.	0.20	0.10	0.56	0.02	T	0.38	. .	0.09	0.01	0.52	. .	. .	. .	. .
2	Bar Harbor	0.20	T	*	1.22	T	0.16	T	*	0.10	1.28	. .	. .	. .	. .
5	Fairfield	0.21	. .	0.33	. .	. .	. .	. .	0.23	*	0.38	. .	. .	. .	. .
3	Belfast	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	0.36	. .	0.40	. .	. .	. .	. .	. .	0.15	0.30	. .	. .	. .	. .
8	Lewiston	0.40	. .	0.48	. .	. .	. .	. .	0.36	0.17	0.63	. .	. .	. .	. .
12	Portland	0.48	. .	0.73	T	. .	0.02	. .	0.22	0.10	0.90	. .	. .	. .	. .
51	Stratford, N.H.	0.25	0.03	0.15	. .	. .	. .	. .	T	0.58	T	. .	. .	. .	. .
34	Berlin Mills	. .	*	0.10	. .	. .	. .	. .	0.21	*	0.35	. .	. .	. .	. .
47	North Conway	. .	. .	0.12	. .	. .	. .	. .	*	0.32	0.60	. .	. .	. .	. .
49	Plymouth	. .	. .	0.24	0.02	. .	. .	*	0.37	0.38	0.36	. .	. .	. .	. .
39	Hanover	0.14	. .	0.16	. .	. .	. .	*	0.47	0.20	0.05	. .	. .	. .	. .
40	Lake Village	. .	. .	0.31	. .	. .	. .	. .	1.12	0.68	. .	. .	. .	. .	. .
37	Concord	0.23	. .	0.14	T	. .	. .	0.18	0.27	0.72	. .	. .	. .	. .	. .
52	Walpole	. .	. .	0.10	. .	. .	. .	*	0.62	*	0.52	. .	. .	. .	. .
45	Nashua	0.40	. .	0.31	. .	. .	0.04	0.34	0.27	0.44	0.24	. .	. .	. .	. .
78	Lunenburgh, Vt.	0.10	. .	0.10	. .	. .	. .	T	0.30	0.05	0.20	. .	. .	. .	. .
73	Burlington	0.16	. .	0.07	. .	. .	. .	*	0.25	*	0.02	. .	. .	. .	. .
82	Northfield	0.06	. .	0.12	. .	. .	. .	T	0.28	T	0.04	. .	. .	. .	. .
75	Cornwall	. .	. .	0.14	. .	. .	. .	. .	0.40	0.09	. .	. .	. .	. .	. .
74	Chelsea	0.13	. .	0.18	0.06	. .	. .	0.03	0.48	0.05	0.23	. .	. .	T	. .
85	Vernon	. .	. .	0.10	. .	. .	. .	*	0.72	0.35	. .	. .	. .	. .	. .
77	Jacksonville	0.20	. .	0.13	. .	. .	. .	*	0.84	0.42	0.70	. .	. .	. .	. .
159	Salem, Mass.	0.36	. .	0.52	. .	. .	0.19	0.49	. .	*	0.81	. .	. .	. .	. .
149	Newburyport	0.46	. .	0.48	T	. .	0.16	*	0.44	0.17	0.51	. .	. .	. .	. .
104	Blue Hill	0.38	. .	0.63	. .	. .	0.20	0.02	0.59	0.20	0.43	. .	. .	. .	. .
122	Framingham	0.34	. .	0.51	. .	. .	0.14	*	0.68	*	0.74	. .	. .	. .	. .
120	Fitchburg	0.37	. .	0.22	. .	. .	0.04	0.48	0.62	0.38	0.38	. .	. .	. .	. .
123	Gilbertville	. .	. .	0.40	. .	. .	. .	. .	*	*	1.05	. .	. .	. .	. .
152	Northampton	. .	. .	0.18	. .	. .	. .	. .	0.78	0.62	0.33	. .	. .	. .	. .
134	Ludlow	0.25	. .	0.30	. .	. .	0.05	0.05	0.35	0.10	0.65	. .	. .	. .	. .
155	Provincetown	0.33	. .	0.42	. .	. .	0.19	0.30	0.29	0.32	0.27	. .	. .	. .	T
146	Nantucket	0.29	. .	0.15	. .	. .	0.35	0.04	0.17	0.20	0.21	. .	. .	. .	0.02
114	Cotuit	0.59	. .	0.29	. .	. .	0.43	. .	0.36	. .	0.41	. .	. .	. .	. .
153	Plymouth	0.49	. .	0.72	. .	. .	0.08	*	*	*	1.00	. .	. .	. .	. .
148	New Bedford	0.05	. .	0.49	. .	. .	0.21	*	0.43	*	0.62	. .	. .	. .	. .
163	Taunton	0.57	. .	0.57	. .	. .	0.24	. .	0.51	*	0.62	. .	. .	. .	. .
202	Bristol, R. I.	0.35	. .	0.84	. .	. .	0.10	*	0.74	*	0.64	. .	. .	. .	. .
207	Providence	0.37	. .	0.66	T	. .	0.16	T	0.60	*	0.61	. .	. .	. .	. .
201	Block Island	0.47	. .	0.20	0.02	. .	0.26	0.03	0.26	0.15	0.10	. .	. .	. .	. .
233	Voluntown, Conn.	0.61	. .	1.00	. .	. .	0.46	0.10	0.20	0.20	0.46	. .	. .	. .	. .
229	New London	0.45	. .	0.75	0.02	. .	0.33	0.11	0.30	0.30	0.39	. .	. .	. .	. .
224	Hartford	0.39	. .	0.46	T	. .	0.21	0.10	0.42	0.55	0.18	. .	. .	. .	. .
234	Wallingford	0.95	. .	0.65	. .	. .	0.28	0.06	0.32	0.20	0.22	. .	. .	. .	. .
235	Waterbury	0.41	. .	0.30	. .	. .	0.34	*	0.53	*	0.62	. .	. .	. .	. .
230	Shelton	. .	. .	0.65	. .	. .	0.32	. .	. .	1.05	. .	. .	. .	. .	. .
251	Albany, N.Y.	0.32	. .	0.12	T	. .	. .	0.42	0.52	0.34	0.02	. .	. .	0.01	0.01
258	Poughkeepsie	0.28	. .	0.06	. .	. .	. .	*	0.72	0.52	. .	. .	. .	. .	. .
253	Carmel	0.68	. .	0.18	. .	. .	0.04	. .	0.46	*	0.70	. .	. .	. .	. .
255	New York	0.52	. .	0.19	T	. .	0.26	0.50	0.14	0.40	0.08	. .	. .	. .	. .
256	Setauket	0.42	. .	0.95	. .	. .	0.26	0.49	0.10	0.32	0.07	. .	. .	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	. .	0.15	0.65	. .	. .	*	0.50	. .	. .	*	*	1.04	. .			
4	. .	0.04	0.09	0.14	. .	. .	0.35	0.10	. .	. .	0.05	0.33	0.15	. .			
2	T	0.07	0.21	0.35	. .	*	0.57	. .	. .	. .	*	0.45	0.07	. .			
5	. .	. .	. .	0.26	. .	. .	0.34	. .	. .	. .	*	0.27	0.21	. .			
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .			
7	. .	. .	0.30	. .	. .	*	0.50	. .	. .	. .	1.00	. .	0.40	. .			
8	. .	0.01	0.26	0.11	. .	0.22	0.38	0.01	. .	. .	0.39	0.01	0.37	0.09			
12	. .	0.01	0.11	0.33	. .	0.36	0.48	0.04	. .	. .	0.14	0.07	0.32	T			
51	. .	0.16	. .	. .	. .	. .	0.31	. .	. .	. .	0.33	*	0.37	. .			
34	. .	*	0.45	. .	. .	. .	0.23	. .	. .	. .	0.20	0.30	. .	. .			
47	. .	0.30	. .	. .	. .	*	0.96	. .	. .	. .	*	1.52	0.20	. .			
49	. .	. .	0.08	0.24	. .	*	0.68	. .	. .	. .	0.66	*	0.23	0.09			
39	. .	T	*	0.42	. .	0.45	0.04	. .	. .	. .	0.24	*	0.23	*			
40	. .	. .	0.39	. .	. .	0.52	0.10	. .	. .	. .	0.29	0.57	. .	. .			
37	. .	. .	0.15	0.35	. .	0.48	0.08	. .	. .	. .	0.09	0.31	0.54	T			
52	. .	. .	*	0.50	. .	*	0.30	. .	. .	. .	0.40	*	0.51	. .			
45	. .	T	0.28	0.16	. .	0.34	0.20	0.06	. .	. .	T	0.65	0.42	0.10			
78	T	. .	. .	0.20	. .	. .	*	0.25	. .	. .	0.15	. .	0.60	. .			
73	. .	*	0.25	0.03	. .	0.03	0.04	. .	. .	. .	0.03	. .	0.07	0.06			
82	. .	0.02	0.23	0.03	. .	0.26	0.10	T	. .	. .	0.56	0.04	0.24	0.15			
75	. .	0.10	0.20	. .	. .	0.25	0.03	. .	. .	. .	0.70	0.10	. .	0.24			
74	. .	0.02	0.30	0.27	. .	*	0.48	0.04	. .	. .	0.26	T	0.26	0.07			
85	. .	0.08	*	0.52	. .	0.46	. .	. .	. .	. .	0.14	0.05	0.34	. .			
77	. .	0.13	0.30	0.73	. .	0.62	0.19	T	. .	. .	0.36	*	0.37	0.26			
159	. .	. .	*	0.51	. .	*	0.79	0.09	. .	. .	*	0.67	0.47	*			
149	. .	. .	0.30	0.16	. .	0.37	0.36	0.03	. .	. .	0.04	0.63	0.60	0.12			
104	. .	0.05	0.37	0.26	. .	0.33	0.23	0.10	. .	. .	0.02	0.93	0.25	0.02			
122	. .	0.08	0.12	0.50	. .	*	*	0.71	. .	. .	*	*	1.22	0.08			
120	. .	0.02	0.29	0.13	. .	0.45	0.23	0.02	. .	. .	0.05	0.42	0.41	0.05			
123	. .	*	*	0.43	. .	*	*	0.70	. .	. .	*	*	0.72	. .			
152	. .	0.04	*	0.86	*	0.56	0.32	. .	. .	. .	0.14	0.64	. .	. .			
134	. .	0.15	0.75	0.35	. .	0.40	0.30	0.20	. .	. .	0.10	0.30	0.40	. .			
155	. .	0.09	0.36	0.20	. .	0.40	0.21	0.11	. .	. .	0.04	0.68	0.30	0.03			
146	. .	0.21	0.38	0.06	. .	0.12	0.15	0.22	. .	. .	. .	0.56	0.17	. .			
114	. .	0.23	0.50	0.05	. .	0.30	0.75	. .	. .	. .	. .	1.03	0.39	0.42			
153	. .	0.07	*	0.26	. .	. .	*	0.79	. .	. .	*	*	1.64	0.27			
148	. .	*	*	1.03	. .	0.53	*	0.64	. .	. .	*	*	1.45	0.33			
163	. .	0.17	0.40	0.21	. .	0.25	0.32	0.21	. .	. .	0.04	1.22	0.34	. .			
202	. .	*	*	0.85	. .	*	1.30	. .	. .	. .	*	*	1.32	0.15			
207	. .	*	*	0.85	. .	*	*	1.03	. .	. .	*	*	1.32	0.40			
201	. .	0.28	0.54	0.06	. .	0.12	0.23	0.27	. .	. .	0.02	0.83	0.13	T			
233	. .	0.25	0.87	0.28	. .	0.55	0.20	0.25	. .	. .	0.10	1.22	0.30	0.26			
229	. .	0.47	0.60	0.05	. .	0.30	0.35	0.30	. .	T	0.09	0.35	0.20	0.10			
224	. .	0.15	0.47	0.42	. .	0.42	0.32	0.07	. .	. .	0.03	0.72	0.19	. .			
234	. .	0.40	0.60	0.24	. .	0.63	0.10	0.35	. .	T	0.20	0.68	0.85	. .			
235	. .	*	0.82	0.37	. .	0.54	0.26	0.25	. .	. .	0.07	0.73	0.41	. .			
230	. .	0.40	0.45	0.22	*	0.50	0.42	. .	. .	. .	0.85	0.92	. .	. .			
251	. .	0.14	0.84	0.20	. .	0.34	0.32	0.02	. .	. .	0.10	0.12	0.30	T			
258	. .	0.34	0.59	0.61	. .	*	*	0.89	. .	. .	0.17	0.27	T	. .			
253	. .	0.65	0.46	0.47	. .	0.69	0.53	. .	. .	. .	0.14	0.22	0.69	. .			
255	. .	0.41	0.29	0.11	. .	0.24	0.38	0.22	. .	. .	0.05	0.82	0.08	. .			
256	. .	0.88	0.23	T	. .	0.44	0.37	0.37	. .	. .	0.11	1.13	0.12	T			

T Trace, when precipitation is less than 0.01 inch.

No.	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	0.32	. .	. .	. .	0.28	. .	. .	. .	. .	0.80	. .	. .	*	1.22
4	Eastport, Me. . .	0.08	. .	. .	. .	0.63	. .	. .	. .	. .	0.73	. .	. .	0.63	0.23
2	Bar Harbor	0.49	. .	. .	*	0.10	. .	. .	. .	. .	1.99	. .	. .	*	1.99
5	Fairfield	0.45	. .	. .	. .	*	0.91	. .	. .	*	1.09	. .	. .	*	1.20
3	Belfast	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	*	1.10	. .	. .	. .	. .	—	. .	. .	*	0.82
8	Lewiston	0.09	. .	. .	0.47	0.26	. .	. .	. .	0.05	1.30	. .	0.01	1.12	0.05
12	Portland	0.20	. .	T	0.30	0.10	. .	. .	. .	0.09	2.10	. .	. .	1.46	0.02
51	Stratford, N.H. .	. .	. .	. .	*	0.05	0.02	. .	. .	*	1.25	. .	0.04	0.06	. .
34	Berlin Mills	. .	. .	. .	1.10	. .	. .	. .	. .	1.10	. .	. .	*	0.11	. .
47	North Conway . .	0.50	. .	*	*	1.62	. .	. .	. .	*	1.80	. .	. .	. .	. .
49	Plymouth	. .	. .	. .	0.30	0.32	. .	. .	. .	0.10	0.95	. .	0.03	0.55	. .
39	Hanover	0.16	. .	T	*	0.70	. .	. .	. .	*	0.67	. .	*	0.26	. .
40	Lake Village . . .	. .	. .	*	1.06	. .	. .	. .	. .	1.78	. .	. .	*	0.50	. .
37	Concord	. .	. .	. .	0.90	. .	. .	. .	. .	1.40	. .	. .	0.28	0.34	. .
52	Walpole	. .	. .	. .	0.74	. .	. .	. .	. .	*	1.27	. .	*	0.53	. .
45	Nashua	. .	. .	*	*	1.66	. .	. .	. .	0.80	0.75	. .	0.15	0.67	. .
78	Lunenburgh, Vt. .	0.05	. .	. .	1.00	. .	. .	. .	. .	*	0.10	. .	*	0.18	0.25
73	Burlington	. .	. .	. .	0.45	0.05	. .	. .	. .	*	0.51	. .	. .	*	0.10
82	Northfield	0.11	. .	T	0.52	0.09	T	. .	. .	0.11	0.33	. .	0.01	0.35	0.07
75	Cornwall	0.10	. .	0.40	*	0.41	. .	. .	. .	*	0.53	. .	0.08	0.18	. .
74	Chelsea	0.18	. .	0.03	0.77	0.07	T	. .	. .	0.03	0.73	. .	0.03	0.17	0.17
85	Vernon	. .	. .	. .	*	0.34	. .	. .	. .	0.25	. .	. .	. .	0.75	. .
77	Jacksonville	. .	. .	0.02	0.71	0.15	. .	. .	. .	0.40	0.95	. .	*	0.66	0.16
159	Salem, Mass. . . .	0.11	. .	. .	1.03	0.65	. .	. .	. .	*	0.73	. .	*	*	0.84
149	Newburyport . . .	. .	. .	0.12	*	1.62	. .	. .	. .	0.11	0.57	. .	0.07	1.07	. .
104	Blue Hill	0.15	. .	0.01	1.30	0.05	. .	. .	. .	0.24	0.43	. .	0.05	0.70	. .
122	Framingham . . .	. .	. .	*	2.05	. .	. .	. .	. .	1.38	. .	. .	*	0.87	. .
120	Fitchburg	. .	. .	*	*	1.69	. .	. .	. .	0.21	1.01	. .	0.15	0.61	. .
123	Gilbertville	. .	. .	. .	*	1.13	. .	. .	. .	0.40	1.16	. .	0.07	0.33	0.14
152	Northampton . . .	. .	. .	*	0.90	. .	. .	. .	. .	0.98	0.95	. .	0.48	0.27	. .
134	Ludlow	. .	. .	0.02	0.40	0.10	. .	. .	. .	0.52	1.00	. .	0.15	0.30	0.15
155	Provincetown . . .	0.18	T	T	1.15	0.07	. .	. .	. .	T	0.43	. .	T	1.25	T
146	Nantucket	0.21	0.01	0.01	0.14	. .	. .	. .	. .	. .	0.20	0.24	. .	0.01	0.61
114	Cotuit	. .	. .	. .	0.77	. .	. .	. .	. .	0.27	0.46	. .	. .	1.42	. .
153	Plymouth	. .	. .	. .	*	1.04	. .	. .	. .	*	0.66	. .	. .	*	1.98
148	New Bedford . . .	. .	. .	. .	1.03	. .	. .	. .	. .	0.87	. .	. .	*	2.08	. .
163	Taunton	0.25	. .	0.01	. .	—	. .	. .	. .	0.26	0.67	. .	0.13	1.49	. .
202	Bristol, R. I. . . .	. .	. .	*	0.88	. .	. .	. .	. .	*	1.14	. .	*	*	1.50
207	Providence	. .	. .	*	*	1.17	. .	. .	. .	*	1.09	. .	*	1.65	. .
201	Block Island	0.13	. .	0.02	0.44	. .	. .	. .	. .	0.39	0.30	. .	0.03	0.52	0.02
233	Voluntown, Conn.	. .	. .	0.20	0.70	. .	. .	. .	T	0.93	0.98	. .	0.10	0.95	0.08
229	New London . . .	0.05	. .	0.05	0.60	. .	. .	. .	0.03	1.05	0 40	. .	0.10	0.85	. .
224	Hartford	. .	. .	T	1.37	. .	. .	. .	. .	1.05	1.19	. .	0.18	0.44	. .
234	Wallingford	. .	. .	*	1.76	. .	. .	. .	0.43	1.25	. .	. .	0.66	0.11	. .
235	Waterbury	. .	. .	T	0.58	. .	. .	. .	*	0.68	1.20	. .	*	0.54	. .
230	Shelton	. .	. .	0.56	. .	. .	. .	. .	. .	0.52	1.71	. .	0.83	0.13	. .
251	Albany, N.Y. . .	0.20	. .	0.01	0.56	. .	. .	. .	. .	0.28	0.80	. .	0.15	0.33	0.02
258	Poughkeepsie . . .	. .	. .	0.02	0.64	. .	. .	. .	*	0.76	0.34	. .	0.29	0.28	. .
253	Carmel	. .	. .	*	0.59	. .	. .	. .	*	0.49	0.93	. .	*	0.58	. .
255	New York	. .	. .	0.18	0.44	. .	. .	0.01	0.10	0.62	0.36	. .	0.41	0.56	. .
256	Setauket	. .	. .	0.14	0.66	. .	. .	. .	0.12	0.92	0.43	. .	0.20	0.59	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	0.13	. .	*	0.40	. .	. .	. .	. .	. .	. .	. .	. .	0.02	. .	. .	. .
4	. .	0.06	0.01	T	0.27	. .	0.01	0.03	0.05	. .	. .	. .	. .	0.02	. .	T	. .
2	. .	0.01	. .	*	0.21	. .	*	*	0.39	. .	. .	. .	. .	. .	. .	. .	. .
5	. .	. .	0.02	. .	. .	. .	. .	*	*	1.08	. .	. .	. .	. .	. .	. .	. .
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	. .	T	. .	T	. .	. .	T	3.40	0.15	. .	. .	. .	. .	. .	. .	. .	. .
8	. .	0.05	. .	. .	. .	. .	0.10	3.10	0.40	0.03	T	. .	. .	. .	. .	. .	. .
12	. .	0.02	. .	. .	0.06	. .	0.15	0.88	0.08	0.02	. .	. .	. .	. .	. .	. .	. .
51	. .	T	. .	0.30	. .	. .	*	0.26	. .	0.06	. .	. .	. .	. .	. .	. .	. .
34	. .	0.25	. .	. .	0.05	. .	. .	*	*	2.30	. .	. .	. .	. .	. .	. .	. .
47	. .	. .	. .	. .	. .	. .	*	*	*	2.30	. .	. .	. .	. .	. .	. .	. .
49	. .	0.02	. .	0.05	. .	. .	0.24	1.01	0.28	. .	. .	. .	. .	. .	. .	. .	. .
39	. .	*	0.05	. .	. .	. .	*	0.38	0.10	. .	. .	. .	. .	. .	. .	. .	. .
40	. .	0.02	. .	. .	. .	. .	*	*	1.00	. .	. .	. .	. .	. .	. .	. .	. .
37	. .	0.02	. .	. .	. .	. .	0.48	0.66	0.11	. .	. .	. .	. .	. .	. .	. .	. .
52	. .	. .	. .	. .	. .	. .	*	0.60	. .	. .	. .	. .	. .	. .	. .	. .	. .
45	. .	. .	. .	. .	0.03	. .	0.85	0.45	0.07	T	. .	. .	. .	. .	. .	. .	. .
78	. .	*	0.30	. .	0.10	. .	*	0.18	. .	. .	. .	. .	. .	. .	. .	. .	. .
73	. .	0.03	. .	0.20	. .	. .	0.05	0.10	. .	0.21	. .	. .	. .	. .	. .	. .	. .
82	0.01	0.14	. .	T	0.10	. .	0.20	0.59	0.03	0.02	. .	. .	. .	. .	. .	. .	. .
75	. .	. .	. .	. .	. .	. .	0.10	0.05	0.06	. .	. .	. .	. .	. .	. .	. .	. .
74	0.05	0.09	. .	*	0.12	. .	0.12	0.53	0.07	0.05	. .	. .	. .	. .	. .	. .	. .
85	. .	. .	. .	. .	. .	. .	. .	1.25	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	. .	0.05	0.02	0.02	. .	. .	0.42	0.57	0.07	0.03	. .	. .	. .	. .	. .	. .	. .
159	T	. .	. .	. .	0.06	0.01	1.20	0.12	0.17	. .	. .	. .	. .	. .	. .	. .	. .
149	. .	T	. .	. .	0.04	. .	0.84	0.14	0.03	0.02	. .	. .	. .	T	. .	. .	. .
104	. .	T	. .	. .	0.02	T	1.33	0.56	0.02	0.02	T	. .	. .	. .	T	. .	. .
122	. .	. .	. .	. .	0.16	. .	*	*	*	2.17	. .	. .	. .	. .	. .	. .	. .
120	. .	. .	. .	. .	0.01	. .	0.51	0.92	0.06	. .	. .	. .	. .	. .	. .	. .	. .
123	. .	T	. .	. .	. .	. .	. .	0.03	0.44	. .	. .	. .	. .	. .	. .	. .	. .
152	. .	. .	. .	. .	. .	. .	*	0.25	. .	. .	. .	. .	. .	. .	. .	. .	. .
134	. .	. .	. .	. .	0.05	. .	0.05	0.20	0.05	. .	. .	. .	. .	. .	. .	. .	. .
155	. .	T	. .	. .	T	T	0.58	0.04	. .	. .	. .	. .	. .	T	. .	. .	. .
146	0.01	. .	. .	. .	T	. .	0.38	0.01	. .	0.03	T	. .	. .	. .	. .	. .	. .
114	. .	. .	. .	. .	. .	. .	0.70	. .	. .	0.01	. .	. .	. .	0.03	. .	. .	. .
153	. .	. .	. .	. .	*	*	*	1.28	*	*	0.08	. .	. .	. .	. .	. .	. .
148	. .	0.01	. .	. .	. .	. .	*	1.61	. .	. .	. .	. .	. .	0.01	. .	. .	. .
163	. .	. .	. .	. .	T	. .	*	1.93	. .	0.02	. .	. .	. .	. .	. .	. .	. .
202	. .	T	. .	. .	. .	. .	*	*	1.60	T	. .	. .	. .	. .	. .	. .	. .
207	. .	T	. .	. .	T	T	*	*	1.64	. .	. .	. .	. .	. .	. .	. .	. .
201	. .	. .	. .	. .	. .	. .	0.36	0.17	0.04	. .	. .	. .	. .	. .	T	. .	. .
233	. .	T	. .	. .	. .	. .	0.60	0.31	T	. .	. .	. .	. .	. .	. .	. .	. .
229	. .	T	. .	. .	0.01	T	0.40	0.40	0.05	. .	. .	. .	. .	. .	. .	. .	. .
224	. .	T	. .	T	. .	. .	0.34	0.87	0.02	. .	. .	. .	. .	. .	. .	. .	. .
234	. .	. .	. .	. .	. .	*	0.70	1.14	T	. .	. .	. .	. .	. .	. .	. .	. .
235	. .	. .	. .	. .	. .	. .	0.44	1.64	. .	. .	. .	. .	. .	. .	. .	. .	. .
230	. .	. .	. .	. .	. .	0.13	*	0.68	T	. .	. .	. .	. .	. .	. .	. .	. .
251	. .	T	. .	. .	0.01	T	0.47	0.19	0.02	0.06	0.01	. .	. .	0.01	. .	. .	. .
258	. .	. .	. .	. .	. .	T	0.38	0.18	0.02	. .	. .	. .	. .	. .	. .	. .	. .
253	. .	. .	. .	. .	. .	. .	0.11	0.18	0.51	. .	. .	. .	. .	. .	. .	. .	. .
255	T	T	. .	. .	. .	0.02	0.83	0.53	0.14	. .	. .	. .	. .	. .	T	. .	0.02
256	. .	T	. .	. .	. .	0.03	0.50	0.23	0.02	. .	. .	. .	. .	. .	. .	. .	. .

T Trace, when precipitation is less than 0.01 inch.

No.	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B.	. .	. .	*	0.69	. .	. .	. .	. .	. .	. .	. .	0.66	. .	. .
4	Eastport, Me.	. .	. .	0.27	0.05	. .	. .	. .	. .	. .	. .	. .	0.27	. .	. .
2	Bar Harbor	. .	. .	*	1.20	. .	. .	T	. .	. .	. .	*	0.70	. .	. .
5	Fairfield	. .	. .	*	0.78	. .	. .	. .	. .	. .	. .	*	0.56	. .	. .
3	Belfast	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	1.00	. .	. .	. .	. .	. .	. .	. .	*	0.15	. .	. .
8	Lewiston	. .	. .	1.15	. .	. .	T	. .	. .	. .	. .	0.30	0.80	. .	. .
12	Portland	. .	. .	0.59	T	. .	. .	T	. .	. .	. .	0.12	0.44	. .	. .
51	Stratford, N.H.	. .	. .	*	0.61	. .	. .	. .	. .	. .	. .	*	0.60	. .	. .
34	Berlin Mills	. .	. .	*	1.46	. .	. .	. .	. .	. .	. .	. .	0.28	. .	. .
47	North Conway	. .	. .	*	1.30	. .	. .	. .	. .	*	*	*	1.60	. .	. .
49	Plymouth	. .	. .	0.66	. .	. .	. .	. .	. .	. .	. .	0.47	0.79	. .	. .
39	Hanover	. .	. .	1.30	. .	. .	. .	. .	. .	. .	. .	. .	0.47	. .	. .
40	Lake Village	. .	. .	0.88	. .	. .	. .	. .	. .	. .	. .	0.98	. .	. .	. .
37	Concord	. .	. .	1.29	. .	. .	. .	. .	. .	. .	. .	0.30	0.47	. .	T
52	Walpole	. .	. .	1.90	. .	. .	. .	. .	. .	. .	. .	*	0.50	. .	. .
45	Nashua	. .	0.11	1.66	. .	. .	. .	. .	. .	. .	. .	0.15	0.36	. .	. .
78	Lunenburgh, Vt.	. .	. .	0.50	0.20	. .	. .	. .	. .	. .	. .	*	1.12	. .	. .
73	Burlington	. .	. .	0.80	. .	. .	. .	. .	. .	. .	. .	0.60	0.06	. .	. .
82	Northfield	. .	. .	0.94	0.01	T	. .	. .	. .	. .	. .	0.26	0.45	. .	. .
75	Cornwall	. .	. .	*	0.98	. .	. .	. .	. .	. .	. .	*	0.45	. .	. .
74	Chelsea	. .	0.03	1.18	0.03	T	. .	. .	. .	. .	. .	0.18	0.37	. .	T
85	Vernon	. .	. .	2.00	. .	. .	. .	. .	. .	. .	. .	0.60	0.20	. .	. .
77	Jacksonville	. .	. .	1.56	T	. .	. .	. .	. .	. .	. .	0.58	0.65	0.05	. .
159	Salem, Mass.	. .	. .	1.48	. .	. .	. .	. .	. .	. .	. .	*	0.18	. .	. .
149	Newburyport	. .	. .	1.19	. .	. .	. .	. .	. .	. .	. .	0.03	0.23	. .	. .
104	Blue Hill	. .	. .	1.60	T	. .	. .	T	. .	. .	. .	0.02	0.36	. .	. .
122	Framingham	. .	. .	2.48	. .	. .	. .	. .	. .	. .	. .	*	0.44	. .	. .
120	Fitchburg	. .	. .	2.44	. .	. .	. .	. .	. .	. .	. .	0.20	0.54	. .	. .
123	Gilbertville	. .	. .	1.20	. .	. .	. .	. .	. .	. .	. .	. .	0.97	. .	. .
152	Northampton	. .	. .	3.05	. .	. .	. .	. .	. .	. .	. .	0.65	0.49	. .	. .
134	Ludlow	. .	. .	1.20	. .	. .	. .	. .	. .	. .	. .	0.25	0.60	. .	. .
155	Provincetown	. .	T	1.26	T	. .	. .	. .	. .	. .	. .	T	0.30	. .	. .
146	Nantucket	. .	. .	0.61	T	0.01	. .	. .	. .	. .	. .	0.01	0.46	. .	. .
114	Cotuit	. .	. .	1.33	0.05	. .	. .	. .	. .	. .	. .	. .	0.46	. .	. .
153	Plymouth	. .	. .	0.44	*	0.08	. .	. .	. .	. .	. .	*	0.33	. .	. .
148	New Bedford	. .	*	1.32	0.02	. .	. .	. .	. .	. .	. .	*	0.49	. .	. .
163	Taunton	. .	. .	1.50	0.51	0.01	. .	. .	. .	. .	. .	0.10	0.56	. .	. .
202	Bristol, R. I.	. .	. .	1.76	T	T	. .	. .	. .	. .	. .	*	0.71	. .	. .
207	Providence	. .	. .	1.89	T	. .	. .	. .	. .	. .	. .	*	0.60	. .	. .
201	Block Island	. .	T	0.21	T	. .	. .	T	. .	. .	. .	0.12	0.40	. .	. .
233	Voluntown, Conn.	. .	T	1.80	. .	. .	. .	. .	. .	. .	. .	0.50	0.98	. .	. .
229	New London	. .	0.01	1.50	0.01	. .	. .	T	. .	. .	. .	0.26	0.45	. .	. .
224	Hartford	. .	*	2.09	T	. .	. .	. .	. .	. .	. .	0.54	0.59	. .	. .
234	Wallingford	. .	*	1.65	. .	. .	. .	. .	. .	. .	. .	0.07	1.32	. .	T
235	Waterbury	. .	*	1.19	. .	. .	. .	. .	. .	. .	. .	0.53	0.83	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y.	0.01	. .	1.14	T	. .	. .	. .	. .	. .	0.01	0.71	0.07	. .	. .
258	Poughkeepsie	0.01	*	1.23	0.02	. .	. .	. .	. .	. .	T	0.81	. .	. .	. .
253	Carmel	. .	*	1.27	. .	. .	. .	. .	. .	. .	*	0.41	0.76	. .	0.08
255	New York	0.14	0.34	0.73	0.02	. .	. .	. .	. .	. .	T	0.55	0.10	. .	. .
256	Setauket	. .	0.30	1.10	0.02	.	. .	. .	. .	. .	T	0.71	0.66	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.30	. .	. .	*	0.32	. .	. .	*	0.42	. .	0.13	. .	. .	0.03	. .	. .	
4	0.21	0.03	. .	0.04	0.11	0.03	. .	T	0.17	. .	0.15	0.04	. .	. .	. .	. .	
2	0.54	. .	. .	0.03	T	0.01	. .	T	0.01	. .	*	0.38	. .	. .	T	. .	
5	*	0.43	. .	*	0.09	. .	. .	*	0.05	. .	0.06	. .	. .	. .	. .	. .	
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
7	0.30	. .	. .	0.01	*	0.12	. .	. .	0.15	. .	0.12	. .	. .	. .	. .	. .	
8	0.28	0.01	. .	0.01	0.15	. .	. .	. .	0.02	0.01	0.16	. .	. .	. .	T	. .	
12	0.11	0.01	. .	0.17	0.03	. .	. .	. .	0.28	0.01	0.13	. .	. .	. .	. .	. .	
51	0.41	0.09	. .	0.13	. .	. .	. .	. .	. .	T	. .	. .	T	. .	. .	. .	
34	0.63	. .	. .	*	0.19	. .	. .	. .	0.20	0.25	. .	. .	. .	. .	. .	. .	
47	*	0.26	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
49	0.37	. .	. .	. .	. .	. .	. .	. .	0.02	. .	. .	. .	. .	. .	. .	. .	
39	0.26	0.18	. .	. .	. .	. .	. .	T	. .	. .	T	. .	. .	T	. .	. .	
40	0.24	. .	. .	. .	. .	. .	. .	. .	0.04	. .	. .	. .	. .	. .	. .	. .	
37	0.13	. .	. .	0.20	. .	. .	. .	. .	. .	. .	0.02	. .	. .	. .	. .	. .	
52	0.17	. .	. .	0.55	. .	. .	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	
45	0.34	T	. .	0.30	. .	. .	. .	. .	. .	. .	0.03	. .	. .	. .	. .	. .	
78	. .	. .	. .	. .	0.26	. .	. .	. .	. .	. .	0.05	. .	. .	. .	0.05	. .	
73	*	0.69	. .	. .	0.29	. .	. .	. .	. .	0.29	0.04	. .	. .	T	. .	. .	
82	0.60	0.04	. .	0.02	0.03	. .	. .	0.03	0.03	. .	T	. .	. .	T	T	. .	
75	0.45	. .	. .	. .	. .	. .	. .	. .	. .	0.02	0.04	. .	. .	. .	. .	. .	
74	0.84	0.05	. .	0.04	0.02	. .	. .	T	0.04	. .	0.03	. .	. .	0.04	. .	. .	
85	0.12	. .	. .	0.45	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
77	0.37	0.02	. .	0.37	0.04	. .	. .	0.02	0.02	. .	0.05	. .	. .	. .	. .	. .	
159	0.43	. .	. .	*	0.09	. .	. .	. .	T	T	. .	. .	. .	. .	. .	. .	
149	0.29	0.01	. .	0.26	. .	. .	. .	. .	0.07	0.01	0.01	. .	. .	. .	. .	. .	
104	0.54	. .	. .	*	0.18	. .	. .	. .	T	. .	0.05	. .	. .	. .	. .	. .	
122	0.58	. .	. .	*	0.14	. .	. .	. .	. .	. .	0.12	. .	. .	. .	. .	. .	
120	0.71	0.02	. .	0.32	. .	. .	. .	. .	. .	. .	0.03	. .	. .	. .	. .	. .	
123	0.55	. .	. .	. .	0.21	. .	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	
152	0.42	. .	. .	0.24	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
134	0.40	. .	. .	0.30	. .	. .	. .	0.05	0.05	. .	0.02	. .	. .	. .	. .	. .	
155	1.32	. .	. .	0.02	0.38	. .	. .	. .	T	. .	T	. .	. .	. .	. .	. .	
146	0.04	0.05	. .	0.01	0.22	. .	. .	. .	. .	0.06	. .	. .	. .	. .	. .	. .	
114	0.20	. .	. .	0.31	. .	. .	. .	. .	0.22	. .	0.08	. .	. .	. .	. .	. .	
153	1.03	. .	. .	. .	1.08	. .	. .	. .	T	T	0.06	. .	. .	. .	. .	. .	
148	0.23	. .	. .	0.02	0.51	. .	. .	0.04	0.17	. .	0.09	. .	. .	. .	. .	. .	
163	0.48	0.01	. .	. .	0.53	. .	. .	. .	0.13	. .	0.14	. .	. .	. .	. .	. .	
202	0.57	. .	. .	. .	0.65	. .	. .	. .	0.15	. .	0.03	. .	. .	. .	. .	. .	
207	*	0.26	. .	. .	0.31	. .	. .	. .	0.49	. .	0.03	. .	. .	. .	. .	. .	
201	0.12	0.02	. .	. .	0.24	. .	. .	. .	. .	0.08	T	. .	. .	. .	. .	. .	
233	0.25	. .	. .	. .	1.60	. .	. .	T	0.18	. .	T	. .	. .	. .	. .	. .	
229	0.20	0.01	. .	0.02	0.50	. .	. .	. .	0.15	T	0.01	. .	. .	. .	. .	. .	
224	0.19	. .	. .	0.57	0.03	. .	. .	0.12	0.02	. .	T	. .	. .	. .	. .	. .	
234	0.06	. .	. .	0.70	. .	. .	. .	0.07	. .	. .	. .	. .	. .	. .	. .	. .	
235	0.19	. .	. .	0.95	. .	. .	. .	*	0.17	. .	. .	. .	. .	. .	. .	. .	
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
251	0.02	. .	. .	0.21	0.07	. .	. .	0.01	0.01	. .	T	0.01	. .	. .	. .	. .	
258	0.08	. .	. .	0.31	0.01	T	. .	0.06	0.15	. .	T	. .	. .	. .	. .	. .	
253	. .	. .	. .	0.27	. .	. .	. .	0.35	. .	. .	. .	. .	. .	. .	. .	. .	
255	. .	. .	. .	. .	0.14	. .	. .	0.03	0.25	0.10	. .	. .	. .	. .	. .	. .	
256	0.10	. .	. .	. .	0.16	. .	. .	. .	0.17	. .	T	. .	. .	. .	. .	. .	

T. Trace, when precipitation is less than 0.01 inch.

No.	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	. .	. .	. .	0.02	. .	0.01	0.01	. .	. .	*	0.69	. .
4	Eastport, Me. . .	. .	. .	. .	. .	. .	T	0.04	0.12	. .	. .	. .	0.12	0.41	. .
2	Bar Harbor	. .	. .	0.01	. .	. .	. .	. .	T	. .	. .	. .	0.04	0.42	. .
5	Fairfield	. .	. .	0.10	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
3	Belfast	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	0.10	. .	. .	0.05	. .	. .	0.01	. .	. .	T	. .	. .
8	Lewiston	T	. .	0.10	. .	T	0.03	. .	0.01	0.02	. .	T	. .	0.05	. .
12	Portland	T	. .	0.26	. .	. .	0.02	0.02	0.01	0.07	0.01	. .	0.02	0.10	. .
51	Stratford, N.H. .	. .	. .	0.35	0.05	. .	. .	. .	. .	0.35	. .	0.03	. .	. .	. .
34	Berlin Mills	. .	. .	0.18	. .	. .	. .	. .	0.11	. .	. .	0.10	. .	. .	. .
47	North Conway . .	. .	. .	0.22	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	. .	0.31	. .	T	. .	. .	. .	. .	. .	. .	. .	. .	. .
39	Hanover	. .	. .	*	0.23	T	T	. .	T	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	. .	. .	0.36	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	. .	. .	0.19	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
52	Walpole	. .	. .	0.40	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
45	Nashua	. .	. .	0.32	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
78	Lunenburgh, Vt. .	. .	. .	0.55	. .	. .	. .	. .	0.25	. .	. .	. .	. .	. .	. .
73	Burlington	. .	. .	0.31	. .	T	0.15	. .	0.14	. .	. .	. .	. .	. .	. .
82	Northfield	. .	. .	0.18	T	T	0.05	0.01	T	0.05	. .	0.01	. .	. .	. .
75	Cornwall	. .	. .	0.10	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	. .	0.22	T	T	0.08	. .	0.04	. .	. .	T	. .	. .	. .
85	Vernon	. .	. .	0.15	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	. .	0.34	. .	T	0.04	. .	0.04	. .	. .	. .	. .	. .	. .
159	Salem, Mass. . . .	. .	. .	0.14	. .	. .	T	. .	. .	. .	. .	. .	. .	0.09	. .
149	Newburyport . . .	. .	. .	0.22	T	T	. .	. .	. .	. .	. .	. .	0.09	0.17	. .
104	Blue Hill	. .	. .	0.16	T	. .	T	. .	. .	. .	. .	. .	0.01	0.27	. .
122	Framingham . . .	. .	. .	0.10	. .	. .	. .	. .	. .	. .	. .	. .	0.09	. .	. .
120	Fitchburg	. .	. .	0.24	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
123	Gilbertville	. .	. .	0.51	. .	. .	. .	. .	. .	. .	. .	. .	0.17	. .	. .
152	Northampton . . .	. .	. .	0.18	. .	. .	0.11	. .	. .	. .	. .	. .	0.04	. .	. .
134	Ludlow	. .	. .	0.35	. .	. .	0.02	. .	. .	. .	. .	. .	0.05	. .	. .
155	Provincetown . . .	. .	. .	0.32	T	T	. .	T	. .	. .	. .	. .	0.25	0.01	. .
146	Nantucket	. .	. .	0.01	0.07	. .	T	T	. .	. .	. .	. .	T	0.01	. .
114	Cotuit	. .	. .	0.38	. .	. .	. .	0.04	. .	. .	. .	. .	0.07	. .	. .
153	Plymouth	. .	. .	0.15	. .	. .	. .	. .	. .	. .	. .	.	*	0.43	. .
148	New Bedford . . .	. .	. .	0.21	0.02	. .	. .	. .	. .	. .	. .	. .	0.02	0.04	. .
163	Taunton	. .	. .	0.29	0.01	. .	. .	. .	. .	. .	. .	. .	0.19	0.07	. .
202	Bristol, R. I. . . .	0.01	. .	0.15	T	. .	. .	. .	. .	. .	. .	. .	0.32	0.07	. .
207	Providence	T	. .	0.28	0.02	. .	. .	. .	. .	. .	. .	. .	T	T	. .
201	Block Island	. .	. .	0.24	. .	. .	. .	T	. .	. .	. .	. .	T	. .	. .
233	Voluntown, Conn.	. .	. .	0.13	. .	T	. .	. .	. .	. .	. .	T	. .	. .	. .
229	New London . . .	. .	. .	0.25	T	0.01	T	T	. .	. .	. .	. .	0.01	. .	. .
224	Hartford	. .	. .	0.32	. .	. .	. .	. .	. .	. .	. .	. .	0.16	. .	. .
234	Wallingford	. .	. .	0.35	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	. .
235	Waterbury	. .	. .	0.22	. .	. .	0.01	. .	. .	. .	. .	. .	0.09	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	. .	. .	0.07	. .	T	0.06	0.02	T	0.01	. .	. .	. .	. .	. .
258	Poughkeepsie . . .	. .	. .	0.25	. .	T	0.02	. .	. .	. .	. .	. .	. .	. .	. .
253	Carmel	. .	. .	0.13	. .	. .	. .	T	. .	. .	. .	. .	. .	T	. .
255	New York	. .	. .	0.42	T	0.02	0.01	. .	. .	. .	. .	. .	. .	. .	. .
256	Setauket	. .	. .	0.44	T	. .	T	. .	. .	. .	. .	. .	T	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	*	1.20	0.11	. .	. .	. .	0.17	. .	. .	. .	0.17	. .	. .	. .	0.23	. .
4	. .	T	0.51	0.08	. .	. .	. .	0.20	. .	. .	. .	0.07	0.05	. .	. .	0.04	. .
2	. .	*	0.97	0.08	. .	. .	T	0.01	. .	. .	. .	0.03	. .	. .	. .	0.01	. .
5	. .	*	1.65	0.10	. .	. .	. .	. .	. .	. .	. .	0.25	. .	. .	. .	0.16	. .
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
7	. .	1.10	0.25	0.04	. .	. .	T	. .	. .	. .	. .	0.20	. .	. .	0.05	0.38	. .
8	. .	1.17	0.51	0.12	. .	. .	0.02	0.02	. .	. .	. .	0.04	. .	. .	0.25	0.26	. .
12	. .	1.31	0.44	0.06	. .	. .	0.12	0.43	. .	. .	. .	0.12	. .	. .	0.28	0.20	T
51	. .	1.42	. .	0.30	. .	. .	. .	. .	. .	. .	. .	0.11	. .	. .	. .	0.07	. .
34	. .	1.15	. .	0.18	. .	. .	0.05	0.05	. .	. .	. .	0.11	. .	. .	*	*	1.04
47	. .	1.33	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.03	. .	. .	*	0.35	. .
49	. .	1.17	. .	0.02	. .	*	0.21	0.03	. .	. .	. .	T	. .	. .	0.44	0.10	. .
39	. .	*	1.15	. .	. .	. .	*	0.06	. .	. .	. .	T	. .	. .	*	*	0.46
40	. .	1.39	. .	0.07	. .	. .	0.12	. .	. .	. .	. .	0.10	. .	. .	0.80	. .	. .
37	. .	1.15	. .	. .	. .	. .	0.02	. .	. .	. .	. .	0.02	. .	. .	0.91	0.05	. .
52	*	1.26	. .	. .	. .	. .	T	. .	. .	. .	. .	0.07	. .	. .	0.58	. .	. .
45	T	0.98	0.02	T	. .	. .	T	0.10	. .	. .	. .	0.10	. .	. .	0.61	. .	. .
78	. .	*	1.34	T	. .	. .	. .	. .	. .	. .	. .	*	0.55	. .	. .	0.78	. .
73	. .	0.92	. .	. .	. .	. .	0.03	0.10	. .	. .	. .	0.25	. .	. .	. .	0.26	. .
82	. .	1.41	0.01	T	. .	. .	0.06	0.06	. .	. .	. .	0.10	. .	. .	0.02	0.49	0.01
75	. .	1.69	. .	. .	. .	. .	. .	0.08	. .	. .	. .	0.11	. .	. .	. .	0.42	. .
74	. .	1.74	. .	0.02	. .	. .	0.15	0.14	. .	. .	. .	0.14	. .	. .	0.14	0.24	. .
85	. .	0.85	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.25	. .	. .	0.50	. .	. .
77	. .	1.00	. .	0.08	. .	0.01	0.08	0.03	. .	. .	. .	0.16	. .	. .	0.80	0.06	0.03
159	. .	0.37	0.45	. .	. .	. .	. .	. .	. .	. .	. .	0.11	. .	. .	0.51	. .	. .
149	. .	0.88	0.30	. .	. .	T	T	0.03	. .	. .	. .	0.12	. .	. .	0.55	0.03	. .
104	T	1.27	. .	0.37	. .	. .	T	T	. .	. .	. .	0.06	. .	. .	0.25	T	. .
122	. .	1.21	. .	. .	. .	. .	. .	0.06	. .	. .	. .	0.14	. .	. .	*	0.57	. .
120	. .	0.71	0.11	. .	. .	. .	T	0.01	. .	. .	. .	0.02	. .	. .	0.66	0.04	. .
123	. .	0.72	0.08	. .	. .	. .	. .	. .	. .	. .	. .	0.54	. .	. .	0.66	. .	. .
152	. .	0.62	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.06	. .	. .	1.31	. .	. .
134	*	0.45	0.10	. .	. .	T	T	. .	. .	. .	. .	0.03	. .	. .	0.50	0.05	T
155	T	0.74	0.09	T	. .	. .	T	T	. .	. .	. .	0.10	. .	. .	0.17	T	. .
146	. .	0.89	0.11	. .	. .	. .	. .	. .	. .	. .	. .	0.18	. .	. .	0.78	T	. .
114	. .	0.75	0.16	. .	. .	. .	. .	0.02	. .	. .	. .	0.56	. .	. .	0.64	. .	. .
153	. .	1.04	. .	0.06	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	*	0.31	. .
148	. .	0.57	0.90	0.01	. .	. .	. .	. .	. .	. .	. .	0.10	. .	. .	*	0.35	. .
163	T	1.70	0.10	0.05	. .	. .	. .	. .	. .	. .	. .	0.05	. .	. .	0.03	0.03	0.04
202	*	*	0.97	T	. .	. .	. .	. .	. .	. .	. .	0.08	. .	. .	*	0.33	. .
207	*	*	1.59	T	. .	. .	. .	. .	. .	. .	. .	0.06	. .	. .	*	0.34	T
201	0.05	0.38	0.03	. .	. .	. .	. .	0.08	. .	. .	. .	0.20	0.22	. .	0.19	0.02	. .
233	T	0.96	0.10	T	. .	. .	T	T	. .	. .	. .	0.02	. .	. .	0.45	0.05	0.32
229	T	0.70	0.15	. .	. .	. .	T	0.01	0.01	. .	. .	0.07	0.01	. .	0.18	0.02	. .
224	T	0.74	. .	0.02	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	0.74	0.01	. .
234	0.03	1.13	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.30	0.53	. .
235	*	1.00	. .	. .	. .	0.01	. .	. .	. .	. .	. .	0.02	. .	. .	*	0.49	. .
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	T	1.08	. .	T	. .	. .	0.10	0.03	. .	. .	. .	0.17	0.01	. .	0.07	0.01	0.06
258	T	0.73	. .	. .	. .	. .	T	0.01	. .	. .	. .	0.23	. .	. .	0.41	0.01	. .
253	*	0.51	. .	. .	. .	0.06	. .	. .	. .	. .	. .	0.25	. .	. .	0.35	. .	. .
255	0.14	1.16	. .	. .	. .	0.08	. .	0.03	0.02	. .	. .	0.09	. .	. .	1.08	0.05	. .
256	0.05	0.48	. .	. .	. .	T	. .	T	. .	. .	. .	0.07	. .	. .	0.20	T	. .

T. Trace, when precipitation is less than 0.01 inch.

No.	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . . .	. .	0.06	*	0.37	. .	. .	. .	. .	. .	. .	. .	0.03	. .	*
4	Eastport, Me. . . .	. .	. .	0.30	0.29	. .	. .	. .	. .	. .	. .	. .	0.04	. .	T
2	Bar Harbor	. .	. .	0.21	0.30	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
5	Fairfield	. .	0.08	*	0.38	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
3	Belfast	T	*	0.15	0.20	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
7	Kent's Hill	. .	T	*	0.35	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
8	Lewiston	. .	0.70	0.20	0.20	. .	. .	. .	. .	. .	. .	. .	0.85	. .	. .
12	Portland	T	0.01	. .	0.54	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
51	Stratford, N.H. .	. .	. .	*	0.90	. .	. .	. .	. .	. .	. .	. .	0.05	. .	. .
34	Berlin Mills	. .	. .	*	0.84	. .	. .	. .	. .	. .	. .	0.21	. .	. .	. .
47	North Conway . .	. .	. .	0.45	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
49	Plymouth	0.25	. .	0.47	0.38	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
39	Hanover	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	0.13	0.03	0.66	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	0.21	0.14	0.20	0.35	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
52	Walpole	. .	0.30	*	0.30	. .	. .	. .	. .	. .	. .	. .	0.01	. .	. .
45	Nashua	. .	0.05	0.75	0.36	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh, Vt. .	. .	. .	. .	0.65	. .	. .	. .	. .	. .	. .	. .	0.18	. .	. .
73	Burlington	. .	. .	0.26	. .	. .	. .	. .	. .	. .	. .	*	0.10	. .	. .
82	Northfield	0.01	. .	0.02	0.18	. .	. .	. .	. .	. .	. .	0.05	0.11	. .	. .
75	Cornwall	1.06	. .	*	0.44	. .	. .	. .	. .	. .	. .	*	0.49	. .	. .
74	Chelsea	0.18	T	*	0.47	. .	. .	. .	. .	. .	. .	0.24	0.05	. .	. .
85	Vernon	. .	0.95	. .	0.85	. .	. .	. .	. .	. .	. .	. .	0.02	. .	. .
77	Jacksonville	. .	0.15	*	1.17	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
159	Salem, Mass. . . .	. .	*	0.19	0.43	. .	. .	. .	. .	. .	. .	. .		. .	. .
149	Newburyport . . .	. .	0.25	. .	0.76	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
104	Blue Hill	T	0.32	0.01	0.42	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
122	Framingham . . .	. .	0.40	. .	0.35	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
120	Fitchburg	. .	0.07	0.01	0.91	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
123	Gilbertville	. .	1.42	0.03	0.96	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
152	Northampton . . .	. .	1.18	0.07	1.09	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
134	Ludlow	. .	1.10	0.10	0.65	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
155	Provincetown . . .	. .	. .	T	0.18	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
146	Nantucket	. .	0.02	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
114	Cotuit	. .	. .	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
153	Plymouth	. .	. .	. .	0.16	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
148	New Bedford . . .	. .	0.02	. .	0.09	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
163	Taunton	. .	T	. .	0.32	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
202	Bristol, R. I. . . .	. .	T	. .	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
207	Providence	. .	0.05	. .	0.27	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
201	Block Island	. .	0.03	0.03	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
233	Voluntown, Conn.	. .	. .	. .	0.02	. .	. .	. .	. .	. .	. .	. .	T	. .	. .
229	New London . . .	. .	T	0.03	0.15	. .	. .	. .	. .	. .	. .	. .	0.30	. .	. .
224	Hartford	. .	0.04	. .	0.54	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
234	Wallingford	. .	0.40	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
235	Waterbury	. .	0.39	. .	0.08	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	0.06	0.36	0.12	0.08	. .	. .	. .	. .	. .	. .	T	0.02	. .	. .
258	Poughkeepsie . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
253	Carmel	. .	0.47	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	. .	. .
255	New York	. .	. .	0.08	. .	0.02	. .	0.36	. .	. .	. .	. .	0.03	. .	. .
256	Setauket	. .	0.63	0.07	. .	. .	. .	0.28	. .	. .	. .	. .	. .	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.06	0.44	0.66	. .	. .	. .	. .	. .	*	0.53	0.44	. .	*	0.42	0.19	. .	
4	T	0.07	0.02	. .	. .	. .	. .	0.04	0.99	0.81	0.01	. .	T	0.26	0.17	. .	
2	. .	0.03	T	. .	. .	. .	. .	*	2.54	0.01	. .	*	*	0.58	0.06	. .	
5	. .	0.08	. .	. .	. .	. .	. .	*	0.50	0.27	. .	*	0.67	0.03	0.02	. .	
3	. .	. .	T	. .	. .	. .	. .	*	1.69	0.21	. .	*	0.96	0.05	0.07	. .	
7	. .	. .	*	0.15	. .	. .	. .	0.75	0.82	. .	. .	0.82	. .	0.08	0.08	. .	
8	. .	. .	0.18	0.11	. .	. .	. .	0.97	0.12	. .	. .	0.13	T	0.03	0.15	. .	
12	. .	T	0.08	0.27	0.02	. .	. .	1.22	0.29	. .	. .	T	0.06	0.02	0.24	0.02	
51	. .	0.25	*	0.28	. .	. .	. .	*	0.26	. .	. .	. .	. .	. .	. .	. .	
34	. .	0.05	0.05	0.25	. .	. .	*	*	0.75	. .	. .	. .	. .	. .	. .	. .	
47	. .	. .	*	1.21	. .	. .	. .	*	0.63	. .	. .	. .	. .	. .	. .	. .	
49	. .	. .	0.36	0.76	. .	. .	*	0.57	. .	. .	. .	0.07	. .	. .	. .	. .	
39	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
40	. .	*	*	0.82	. .	. .	. .	0.53	. .	. .	. .	0.25	. .	. .	. .	. .	
87	. .	. .	0.25	0.10	0.80	. .	0.40	0.57	. .	. .	. .	0.30	. .	. .	. .	. .	
52	. .	0.40	. .	0.87	. .	. .	*	*	1.33	. .	. .	. .	. .	. .	. .	. .	
45	. .	. .	0.09	0.55	. .	. .	T	1.52	. .	. .	. .	0.01	T	T	T	. .	
78	. .	. .	. .	0.76	. .	. .	*	0.28	. .	. .	. .	. .	. .	0.15	. .	. .	
73	. .	*	0.31	0.18	. .	. .	*	0.51	0.11	. .	. .	. .	. .	. .	. .	. .	
82	. .	0.73	0.13	0.49	0.02	. .	0.02	0.22	0.05	0.01	. .	. .	. .	. .	. .	. .	
75	. .	0.31	0.47	0.61	0.08	. .	0.10	0.04	. .	. .	. .	. .	. .	. .	. .	. .	
74	. .	0.28	0.30	*	0.58	T	0.05	0.52	0.04	T	. .	. .	. .	. .	. .	. .	
85	. .	. .	0.05	0.65	. .	. .	. .	0.95	. .	. .	. .	. .	. .	. .	. .	. .	
77	. .	0.10	0.15	0.75	0.06	0.05	0.03	1.27	0.10	. .	. .	0.01	. .	. .	. .	. .	
159	. .	. .	T	*	1.21	0.08	. .	2.05	T	. .	. .	. .	T	. .	0.03	0.01	
149	. .	. .	T	0.84	0.11	T	. .	1.73	0.02	. .	. .	. .	0.02	T	0.03	0.03	
104	. .	. .	0.08	1.74	0.14	0.37	. .	1.20	. .	. .	. .	T	T	T	T	0.02	
122	. .	. .	*	*	*	1.12	*	1.47	. .	. .	. .	. .	. .	. .	. .	0.03	
120	. .	T	0.15	0.83	0.04	. .	0.01	1.23	0.01	. .	. .	0.21	. .	. .	0.01	. .	
123	. .	. .	. .	1.15	0.13	0.07	T	1.17	. .	. .	. .	. .	. .	. .	. .	. .	
152	. .	. .	. .	1.85	0.09	. .	. .	0.52	. .	. .	. .	1.24	. .	. .	. .	. .	
134	. .	0.05	. .	0.88	0.10	0.10	0.10	0.75	. .	. .	. .	T	. .	. .	. .	. .	
155	. .	. .	T	1.02	T	0.17	. .	0.64	0.03	. .	. .	. .	0.01	0.04	0.04	. .	
146	. .	. .	. .	0.23	0.18	0.28	. .	1.28	0.69	. .	. .	. .	0.03	0.09	0.03	. .	
114	. .	. .	. .	0.49	. .	0.10	. .	0.62	0.07	. .	. .	. .	. .	. .	0.07	. .	
153	. .	. .	. .	*	*	0.97	. .	*	0.92	. .	. .	. .	T	0.12	0.06	. .	
148	. .	. .	. .	*	0.73	0.13	. .	0.52	0.10	. .	. .	. .	. .	. .	0.04	. .	
163	. .	. .	. .	0.76	0.03	0.20	. .	0.70	T	. .	. .	. .	. .	. .	0.02	. .	
202	. .	0.10	. .	0.52	0.07	*	0.42	0.09	. .	. .	. .	. .	. .	. .	T	. .	
207	. .	T	*	*	*	0.82	*	2.34	. .	. .	. .	T	T	. .	0.02	. .	
201	. .	. .	0.02	0.12	0.31	0.15	. .	1.06	0.11	. .	. .	. .	. .	. .	. .	. .	
233	. .	T	T	0.60	0.20	0.10	0.10	0.85	0.10	. .	. .	T	. .	. .	. .	. .	
229	. .	. .	0.28	0.35	0.16	0.22	0.02	0.57	0.05	. .	. .	0.28	0.40	. .	. .	. .	
224	. .	. .	0.20	0.68	0.23	. .	0.07	0.13	. .	. .	. .	0.19	. .	. .	. .	. .	
234	. .	T	0.25	0.16	0.05	T	0.15	0.03	. .	. .	. .	0.35	. .	. .	. .	. .	
235	. .	. .	0.05	0.17	0.23	0.03	0.01	0.16	. .	. .	. .	0.02	. .	. .	. .	. .	
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
251	. .	T	0.12	1.79	0.02	. .	T	0.04	0.02	. .	. .	. .	0.01	. .	0.01	. .	
258	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
253	. .	. .	0.53	0.25	0.33	. .	. .	0.19	0.06	. .	. .	. .	. .	. .	. .	. .	
255	. .	0.32	0.07	0.02	0.13	0.01	0.08	0.06	T	. .	. .	. .	. .	. .	. .	. .	
256	. .	T	0.15	0.60	T	. .	0.05	0.06	. .	. .	. .	. .	. .	. .	. .	. .	

T. Trace, when precipitation is less than 0.01 inca.

No.	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . . .	. .	. .	. .	0.36	. .	. .	. .	0.98	. .	. .	. .	. .	. .	. .
4	Eastport, Me. . . .	. .	. .	. .	0.64	0.08	0.02	. .	0.90	. .	. .	. .	. .	. .	. .
2	Bar Harbor	. .	. .	. .	0.48	T	. .	*	1.59	. .	. .	. .	. .	. .	. .
5	Fairfield	. .	. .	1.35	0.10	0.03	. .	0.41	. .	. .	. .	. .	. .	. .	. .
3	Belfast	. .	. .	. .	0.30	. .	T	. .	0.63	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	Lewiston	. .	. .	0.10	0.33	0.03	0.08	0.02	0.85	. .	. .	. .	. .	. .	. .
12	Portland	. .	. .	. .	0.36	0.04	0.03	T	1.42	. .	. .	. .	. .	. .	. .
51	Stratford, N.H. .	. .	. .	0.10	0.33	. .	. .	. .	0.40	. .	. .	. .	. .	. .	. .
34	Berlin Mills	. .	. .	. .	0.68	. .	. .	. .	0.50	. .	. .	. .	. .	. .	. .
47	North Conway . .	. .	. .	. .	0.87	. .	. .	*	0.65	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	. .	. .	0.55	. .	. .	0.35	0.46	. .	. .	. .	. .	. .	. .
39	Hanover	. .	. .	T	0.59	0.02	. .	. .	0.56	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	0.42	. .	0.04	0.70	. .	. .	. .	. .	. .	. .	. .
37	Concord	. .	. .	. .	0.69	T	. .	0.84	. .	0.03	. .	. .	. .	. .	. .
52	Walpole	. .	. .	. .	0.53	. .	. .	*	0.62	. .	. .	. .	. .	. .	. .
45	Nashua	. .	T	. .	0.36	0.02	. .	0.52	0.24	. .	. .	. .	. .	. .	. .
78	Lunenburgh, Vt. .	. .	. .	. .	0.35	0.10	0.05	*	0.52	. .	. .	. .	. .	. .	. .
73	Burlington	. .	0.53	0.04	0.42	*	0.26	*	0.60	. .	. .	. .	. .	. .	. .
82	Northfield	. .	0.26	0.54	0.44	0.07	0.01	0.03	0.21	T	. .	. .	. .	. .	. .
75	Cornwall	. .	0.25	0.26	0.11	0.54	. .	0.69	. .	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	*	0.17	0.60	0.16	0.02	*	0.60	. .	. .	. .	. .	. .	. .
85	Vernon	. .	. .	. .	0.50	. .	. .	1.00	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	T	T	0.51	0.09	0.03	0.30	0.66	. .	. .	. .	. .	. .	. .
159	Salem, Mass. . . .	. .	. .	. .	0.26	T	. .	*	0.73	. .	. .	. .	. .	. .	. .
149	Newburyport . . .	. .	T	. .	0.30	0.09	. .	0.20	0.70	. .	. .	. .	. .	. .	. .
104	Blue Hill	T	. .	. .	0.39	0.15	. .	0.15	0.48	0.02	. .	. .	. .	. .	T
122	Framingham . . .	. .	. .	. .	0.19	. .	. .	*	0.70	. .	. .	. .	. .	. .	. .
120	Fitchburg	. .	T	. .	0.22	. .	. .	0.61	0.35	. .	. .	. .	. .	. .	. .
123	Gilbertville	. .	. .	. .	0.30	. .	. .	0.31	0.98	. .	. .	. .	. .	. .	. .
152	Northampton . . .	. .	. .	. .	0.30	. .	. .	0.68	0.24	. .	. .	. .	. .	. .	. .
134	Ludlow	. .	. .	. .	0.25	0.02	. .	0.30	0.75	T	. .	. .	. .	. .	. .
155	Provincetown . . .	. .	. .	. .	0.32	. .	. .	0.11	0.59	0.40	. .	. .	T	T	T
146	Nantucket	. .	T	. .	0.21	. .	. .	0.01	0.44	1.32	. .	. .	0.28	. .	. .
114	Cotuit	. .	0.03	. .	0.14	. .	. .	*	0.65	0.84	. .	. .	. .	. .	. .
153	Plymouth	. .	. .	. .	0.15	. .	. .	*	0.76	0.28	. .	. .	. .	. .	. .
148	New Bedford . . .	. .	0.01	. .	0.26	. .	. .	*	0.63	0.44	. .	. .	. .	. .	. .
163	Taunton	. .	T	. .	0.23	T	. .	0.21	0.60	0.23	. .	. .	. .	0.01	. .
202	Bristol, R. I. . . .	. .	T	. .	0.23	. .	. .	*	0.83	0.23	. .	. .	. .	. .	. .
207	Providence	. .	T	. .	0.47	T	. .	*	0.61	0.21	. .	. .	. .	. .	. .
201	Block Island	. .	. .	. .	0.66	. .	. .	0.04	0.70	0.58	. .	. .	0.08	. .	. .
233	Voluntown, Conn.	. .	T	. .	0.25	T	. .	0.25	0.35	0.15	. .	. .	T	. .	T
229	New London . . .	. .	0.01	T	0.30	T	0.01	0.14	0.37	0.15	. .	. .	0.01	. .	T
224	Hartford	. .	0.03	. .	0.14	. .	. .	0.46	0.20	. .	. .	. .	. .	. .	0.04
234	Wallingford	. .	0.05	T	0.36	. .	. .	0.52	0.17	. .	. .	. .	. .	. .	. .
235	Waterbury	. .	0.06	. .	0.25	. .	. .	*	0.65	0.01	. .	. .	. .	. .	0.08
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	0.01	0.02	. .	0.48	0.04	0.02	0.20	0.02	. .	. .	. .	. .	. .	. .
258	Poughkeepsie . . .	. .	0.17	. .	. .	0.55	. .	0.04	0.17	. .	. .	. .	. .	. .	1.23
253	Carmel	. .	0.09	*	0.21	T	. .	*	0.48	. .	. .	. .	. .	. .	0.05
255	New York	. .	0.10	. .	0.20	. .	. .	0.08	0.50	0.27	. .	. .	. .	. .	0.02
256	Setauket	. .	0.05	. .	0.64	. .	. .	0.05	0.33	0.14	. .	. .	. .	. .	T

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	0.50	. .	. .	0.52	0.03	0.15	. .	. .	*	0.78	. .	. .	. .	. .	. .	. .
4	. .	0.06	. .	. .	0.21	. .	0.21	. .	. .	0.08	0.34	0.03	. .	. .	0.02	0.02	. .
2	*	0.11	. .	. .	0.34	. .	0.40	. .	. .	1.06	0.28	. .	. .	. .	0.10	. .	. .
5	0.86	. .	. .	*	0.58	. .	. .	. .	. .	0.89	0.23	. .	0.10	. .	. .	. .	0.08
3	0.30	. .	. .	. .	0.50	. .	T	. .	. .	0.83	0.87	. .	0.70	. .	T	. .	0.03
7	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	1.05	0.20	. .	0.01	0.77	. .	0.02	. .	. .	0.95	0.10	. .	0.50	. .	0.01	0.05	0.20
12	1.32	0.02	. .	T	0.27	. .	0.05	. .	. .	0.52	0.29	. .	0.02	T	0.17	0.02	0.25
51	0.25	. .	. .	*	0.78	0.51	. .	. .	. .	1.40	0.28	. .	. .	. .	0.29	0.44	. .
34	0.37	. .	. .	0.33	. .	. .	. .	. .	. .	0.73	. .	0.12	. .	. .	. .	0.26	. .
47	. .	. .	. .	*	2.65	. .	. .	. .	. .	0.37	. .	. .	. .	. .	0.25	*	0.60
49	0.05	. .	. .	0.12	2.20	. .	. .	. .	. .	0.72	0.06	. .	. .	. .	0.58	0.13	0.36
39	0.26	. .	. .	0.01	1.00	. .	. .	. .	T	0.45	. .	. .	. .	. .	0.06	. .	1.38
40	2.05	. .	. .	0.72	. .	. .	0.03	. .	. .	1.17	. .	. .	. .	. .	. .	0.52	. .
37	0.19	. .	. .	0.52	0.09	. .	. .	. .	. .	0.29	0.08	. .	. .	. .	0.07	0.44	0.10
52	0.40	. .	. .	*	0.62	*	0.30	. .	. .	0.60	. .	. .	. .	. .	*	*	1.66
45	0.12	. .	. .	0.27	0.04	. .	. .	. .	. .	0.28	. .	. .	. .	. .	0.81	0.31	0.31
78	0.92	0.05	. .	*	0.78	0.12	. .	. .	0.25	0.75	0.66	. .	0.06	. .	. .	0.40	. .
73	0.02	. .	. .	*	0.38	. .	. .	. .	0.01	0.55	0.25	0.11	. .	. .	. .	0.31	. .
82	0.02	. .	. .	0.04	0.20	0.04	0.02	. .	T	0.95	0.03	. .	. .	. .	T	0.20	0.14
75	0.02	. .	. .	. .	0.71	. .	. .	. .	0.10	0.80	0.09	. .	. .	. .	. .	1.01	. .
74	T	T	. .	*	0.60	0.04	. .	. .	T	0.65	0.81	. .	. .	. .	T	*	0.45
85	0.22	. .	. .	1.00	. .	. .	. .	. .	. .	0.55	. .	. .	. .	. .	0.56	*	1.01
77	0.72	. .	. .	0.32	1.46	0.76	. .	. .	. .	0.62	. .	. .	. .	. .	0.05	0.60	1.33
159	. .	0.03	. .	*	0.22	. .	. .	. .	. .	0.29	0.02	. .	. .	. .	0.71	. .	0.74
149	0.03	0.01	. .	0.14	0.33	. .	. .	. .	. .	0.21	T	. .	. .	. .	1.34	0.01	0.31
104	T	0.04	. .	0.08	0.08	. .	. .	. .	. .	0.85	0.02	. .	. .	T	0.14	T	0.40
122	0.04	. .	. .	*	0.26	. .	. .	. .	. .	0.57	. .	. .	. .	*	0.79	. .	0.52
120	0.14	. .	. .	0.64	0.10	. .	. .	. .	. .	0.46	T	. .	. .	. .	0.78	0.09	0.56
123	0.16	0.02	. .	0.63	0.50	0.16	. .	. .	. .	0.54	0.44	. .	. .	. .	0.46	0.16	0.56
152	0.13	. .	. .	0.84	. .	. .	. .	. .	. .	0.47	. .	. .	. .	. .	1.16	1.70	. .
134	0.20	. .	. .	1.00	0.52	. .	. .	. .	. .	0.50	0.25	. .	. .	0.10	1.00	0.20	0.75
155	. .	0.08	. .	T	. .	T	. .	. .	. .	0.93	. .	. .	. .	T	T	T	0.39
146	. .	0.11	. .	. .	. .	. .	0.11	. .	. .	0.21	. .	. .	. .	. .	. .	. .	0.47
114	. .	0.12	. .	0.05	. .	0.03	. .	. .	. .	0.10	. .	. .	. .	. .	T	T	0.23
153	. .	0.17	. .	T	. .	. .	. .	. .	. .	0.76	. .	. .	. .	. .	0.06	*	0.42
148	. .	0.47	. .	*	0.04	0.03	0.01	. .	. .	0.17	. .	. .	. .	. .	0.02	. .	0.09
163	0.02	0.17	. .	0.07	. .	. .	. .	. .	. .	0.70	. .	. .	. .	. .	0.07	0.02	0.13
202	*	0.45	. .	*	0.08	. .	. .	. .	. .	0.16	. .	. .	T	. .	. .	*	0.31
207	*	0.23	. .	*	0.15	. .	. .	. .	. .	1.44	T	. .	. .	. .	0.02	*	0.18
201	. .	0.57	. .	0.02	. .	. .	0.01	. .	. .	0.08	0.01	. .	. .	. .	0.01	0.04	0.58
233	0.18	. .	. .	0.16	0.08	. .	. .	. .	. .	1.00	. .	. .	. .	0.04	T	0.10	T
229	0.27	0.75	. .	0.17	. .	. .	0.01	. .	. .	0.77	. .	0.10	. .	0.04	0.11	0.09	0.02
224	0.34	. .	. .	1.24	0.06	. .	. .	. .	. .	0.28	T	. .	. .	0.36	0.78	0.03	0.45
234	. .	. .	. .	1.86	. .	. .	. .	. .	. .	0.55	0.25	. .	. .	0.52	1.07	0.08	. .
235	0.23	. .	. .	*	0.82	. .	0.01	. .	. .	0.35	0.17	. .	. .	0.22	0.40	0.75	0.17
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	0.79	. .	. .	0.18	0.56	0.92	0.02	. .	. .	1.10	0.20	T	0.26	. .	0.02	1.24	0.03
258	. .	. .	. .	0.09	0.42	. .	. .	. .	. .	0.28	. .	0.19	. .	0.06	1.08	0.08	0.88
253	0.40	. .	. .	0.41	. .	. .	. .	. .	. .	0.39	0.29	. .	. .	0.17	0.87	0.29	. .
255	0.07	0.02	. .	0.48	0.01	. .	. .	. .	. .	0.61	T	. .	T	0.46	0.27	1.00	0.02
256	T	. .	. .	3.21	. .	. .	. .	. .	. .	0.74	0.06	. .	. .	0.06	0.08	0.27	0.08

T. Trace, when precipitation is less than 0.01 inch.

No.	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	0.20	. .	. .	. .	. .	. .	. .	0.93	. .	. .	. .	0.65	. .	. .
4	Eastport, Me. . .	T	0.07	. .	. .	. .	. .	T	0.02	. .	T	. .	1.13	0.10	. .
2	Bar Harbor	. .	. .	. .	. .	. .	. .	T	T	. .	. .	. .	0.28	. .	. .
5	Fairfield	0.02	. .	. .	. .	. .	0.09	. .	. .	. .	. .	. .	0.48	. .	0.03
3	Belfast	T	. .	. .	. .	. .	. .	T	0.16	. .	. .	. .	0.23	. .	0.22
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	Lewiston	T	. .	. .	0.01	. .	T	0.35	. .	. .	. .	. .	0.56	. .	T
12	Portland	. .	. .	. .	0.08	0.02	. .	T	. .	. .	. .	. .	. .	. .	. .
51	Stratford, N.H. .	0.35	. .	. .	. .	. .	. .	0.11	. .	. .	. .	0.15	0.67	. .	. .
34	Berlin Mills	0.15	. .	. .		. .	. .	. .	. .	. .	. .	0.50	1.80	. .	. .
47	North Conway . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.10	. .	. .
49	Plymouth	. .	. .	. .	0.08	. .	. .	0.18	. .	. .	. .	. .	. .	. .	. .
39	Hanover	. .	. .	. .	0.10	. .	. .	. .	0.07	. .	. .	0.07	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	0.03	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	. .	. .	. .	0.13	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
52	Walpole	. .	. .	. .	*	0.25	. .	. .	. .	. .	. .	. .	. .	. .	. .
45	Nashua	T	0.05	. .	. .	T	T	0.03	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh, Vt. .	0.08	. .	. .	. .	. .	0.10	. .	. .	. .	. .	. .	. .	. .	. .
73	Burlington	0.05	. .	. .	. .	. .	. .	0.15	. .	. .	. .	0.48	0.58	. .	0.72
82	Northfield	0.01	. .	. .	T	. .	. .	0.12	0.02	. .	. .	. .	1.02	T	. .
75	Cornwall	. .	. .	. .	0.05	. .	. .	. .	. .	. .	. .	0.41	. .	. .	. .
74	Chelsea	T	. .	. .	0.04	T	. .	0.30	. .	. .	. .	. .	0.60	. .	0.03
85	Vernon	. .	0.15	. .	0.15	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville	*	0.07	. .	0.26	0.03	0.44	0.15	. .	0.01	. .	. .	0.01	. .	. .
159	Salem, Mass. . . .	*	0.03	. .	. .	. .	0.08	0.13	T	. .	. .	. .	0.01	. .	. .
149	Newburyport . . .	. .	0.07	. .	T	0.01	. .	0.26	0.06	. .	. .		. .	. .	. .
104	Blue Hill	T	0.08	. .	. .	T	0.23	. .	T	. .	0.01	. .	0.37	. .	T
122	Framingham . . .	. .	0.24	. .	. .	*	0.48	0.11	. .	. .	. .	. .	0.72	. .	. .
120	Fitchburg	. .	0.06	. .	T	0.03	0.03	0.02	. .	. .	. .	. .	0.05	. .	. .
123	Gilbertville	. .	. .	. .	T	0.15	0.07	. .	. .	T	. .	. .	0.93	. .	. .
152	Northampton . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.05	. .	. .
134	Ludlow	. .	. .	. .	T	0.02	0.10	. .	. .	. .	. .	. .	0.05	. .	. .
155	Provincetown . . .	T	T	. .	. .	. .	0.07	0.30	0.04	. .	T	. .	0.19	T	. .
146	Nantucket	. .	0.21	. .	. .	. .	0.05	. .	. .	. .	. .	. .	. .	. .	. .
114	Cotuit	. .	. .	. .	0.02	. .	0.07	. .	0.02	. .	0.03	. .	. .	. .	. .
153	Plymouth	. .	T	. .	. .	. .	0.04	. .	T	. .	0.10	. .	0.18	. .	. .
148	New Bedford . . .	. .	0.30	. .	. .	. .	0.02	. .	. .	. .	0.03	. .	0.09	. .	0.02
163	Taunton	. .	0.03	. .	. .	. .	0.01	0.03	. .	. .	0.03	0.60	0.37	0.03	0.02
202	Bristol, R. I. . . .	. .	0.08	. .	. .	. .	. .	. .	. .	. .	0.01	. .	0.45	. .	0.04
207	Providence	. .	T	. .	T	. .	. .	. .	. .	. .	. .	. .	1.12	. .	0.04
201	Block Island	0.35	. .	. .	. .	. .	. .	. .	. .	. .	0.12	. .	T	. .	. .
233	Voluntown, Conn.	. .	. .	. .	T	T	. .	. .	. .	. .	0.12	. .	0.60	. .	0.10
229	New London . . .	. .	0.02	. .	0.01	T	T	. .	. .	T	. .	. .	0.22	0.01	. .
224	Hartford	. .	. .	T	. .	. .	. .	T	. .	T	. .	0.02	0.03	. .	T
234	Wallingford	. .	. .	. .	. .	. .	. .	T	. .	. .	. .	. .	0.10	. .	. .
235	Waterbury	. .	. .	. .	0.02	. .	. .	0.01	. .	. .	. .	0.22	T	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	T	0.12	. .	0.71	0.06	. .	. .	. .	0.14	0.01	0.03	0.04	. .	. .
258	Poughkeepsie . . .	. .	. .	. .	. .	. .	. .	. .	0.12	. .	. .	. .	0.01	. .	. .
253	Carmel	. .	. .	. .	0.12	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .
255	New York	0.60	0.18	. .	0.08	T	. .	. .	. .	T	. .	0.38	0.06	0.04	. .
256	Setauket	0.21	0.10	. .	0.18	T	. .	. .	. .	T	0.16	. .	0.05	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0.11	. .	0.15	0.13	. .	. .	. .	0.96	. .	*	0.54	. .	*	*	1.74	. .	. .
4	0.04	0.02	. .	0.02	. .	. .	0.05	1.33	. .	0.03	. .	. .	0.71	0.14	0.40	. .	. .
2	0.35	. .	0.16	0.14	. .	. .	0.01	0.80	. .	. .	0.02	. .	*	0.67	0.02	. .	. .
5	1.48	. .	. .	0.14	. .	. .	. .	0.78	. .	. .	. .	. .	. .	0.98	. .	. .	. .
3	0.45	. .	. .	0.22	. .	. .	T	0.35	. .	T	. .	. .	*	1.69	. .	. .	. .
7	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	0.53	0.03	. .	. .	. .	. .	. .	0.12	. .	T	. .	. .	0.59	0.78	. .	. .	. .
12	0.01	0.17	T	. .	. .	. .	. .	0.10	. .	0.04	0.02	. .	0.10	0.54	0.01	. .	0.06
51	0.57	. . .	0.05	0.25	. .	. .	0.28	. .	. .	. .	. .	. .	. .	. .	0.32	. .	. .
34	0.55	. .	. .	. .	. .	. .	1.80	. .	0.05	. .	0.07	. .	0.17	0.17	. .	. .	. .
47	. .	0.85	. .	. .	. .	. .	*	1.93	. .	1.07	. .	. .	*	1.14	. .	. .	. .
49	1.18	. .	. .	. .	. .	. .	0.32	1.69	. .	0.45	. .	. .	0.78	0.64	. .	. .	. .
39	0.72	0.13	. .	0.06	. .	. .	0.40	. .	. .	0.04	. .	. .	0.64	0.98	. .	. .	. .
40	0.90	. .	. .	0.04	. .	. .	0.15	. .	. .	*	0.19	. .	1.01	0.84	. .	. .	. .
37	0.98	0.04	. .	0.35	. .	. .	. .	0.31	. .	0.08	. .	. .	0.21	0.83	. .	. .	0.02
52	1.73	. .	. .	*	0.05	. .	*	0.38	. .	. .	0.30	. .	1.65	0.87	. .	0.05	. .
45	0.44	. .	. .	T	. .	. .	T	0.28	. .	0.05	. .	T	0.09	0.61	. .	0.02	0.03
78	0.90	0.11	0.40	. .	. .	. .	0.40	. .	. .	. .	. .	*	*	0.60	. .	0.08	. .
73	0.01	T	0.14	. .	. .	. .	0.57	. .	0.10	0.13	. .	. .	0.32	. .	. .	. .	. .
82	1.75	0.03	0.28	. .	. .	. .	0.25	0.02	T	0.84	0.06	. .	0.14	0.18	. .	. .	0.06
75	1.96	. .	. .	0.03	. .	. .	0.04	. .	0.12	0.15	. .	. .	1.20	0.40	. .	. .	. .
74	1.70	*	0.18	0.02	. .	. .	0.48	0.05	. .	0.04	. .	T	*	0.54	. .	T	0.02
85	0.95	. .	. .	0.10	. .	. .	0.45	. .	. .	. .	. .	. .	1:05	0.45	. .	. .	. .
77	1.48	. .	. .	0.11	. .	. .	*	0.24	. .	0.43	0.10	. .	0.77	0.53	. .	0.03	0 08
159	0.48	. .	. .	. .	. .	. .	. .	0.43	. .	. .	. .	. .	T	1.30	. .	0.21	0.08
149	0.19	0.01	. .	. .	. .	. .	. .	0.33	. .	0.04	. .	T	0.13	0.45	0.36	0.04	0.09
104	0.69	T	. .	T	T	. .	T	0.72	. .	0.02	T	. .	0.09	1.77	. .	0.54	0.20
122	0.74	. .	. .	. .	. .	. .	. .	0.73	0.19	. .	. .	. .	*	1.69	. .	*	0.32
120	0.90	. .	. .	. .	. .	. .	T	0.34	. .	0.16	0.03	0.01	0.26	0.51	. .	0.05	0.03
123	0.53	. .	. .	T	. .	. .	T	1.12	. .	0.31	0.03	0.04	0.15	0.17	. .	0.15	T
152	0.52	. .	. .	0.47	. .	. .	. .	. .	1.08	0.36	. .	. .	0.36	0.94	0.03	. .	. .
134	0.65	. .	. .	0.15	. .	. .	. .	1.05	0.40	T	. .	0.05	0.25	0.40	. .	0.15	0.05
155	0.05	. .	. .	T	. .	. .	. .	T	. .	T	. .	T	1.12	1.16	. .	0.70	0.30
146	0.28	. .	. .	. .	. .	. .	. .	0.04	. .	0.89	. .	. .	0.19	. .	. .	1.57	0.18
114	0.09	. .	. .	. .	. .	T	. .	. .	. .	0.67	. .	. .	1.49	0.04	. .	*	1.70
153	0.22	. .	. .	. .	. .	. .	. .	0.12	. .	. .	. .	*	*	0.77	. .	*	1.75
148	0.46	. .	. .	. .	. .	. .	. .	0.03	*	0.03	. .	*	*	0.35	*	*	0.84
163	0.61	. .	. .	. .	. .	. .	. .	0.10	. .	0.02	. .	T	0.45	1.02	. .	*	0.06
202	0.36	. .	. .	. .	. .	. .	. .	0.07	. .	0.03	. .	*	0.45	0.22	. .	*	0.55
207	1.08	. .	. .	. .	. .	. .	. .	0.76	. .	0.05	T	*	0.51	2.24	. .	*	0.46
201	1.15	. .	. .	. .	. .	. .	. .	0.06	. .	. .	. .	. .	0.25	0.08	. .	0.85	0.65
233	0.80	T	. .	. .	. .	. .	. .	0.80	T	0.30	. .	0.30	0.11	1.43	T	0.50	0.02
229	0.70	. .	. .	T	. .	. .	. .	0.35	. .	0.15	T	0.41	0.21	2.24	T	0.65	0.02
224	1.54	. .	. .	0.04	. .	. .	T	0.61	. .	0.30	. .	T	0.40	. .	0.61	0.37	T
234	0.30	. .	0.02	. .	. .	. .	0.73	. .	. .	0.93	. .	. .	*	0.23	. .	0.70	. .
235	0.59	. .	. .	0.10	. .	. .	*	0.88	*	0.66	. .	0.03	0.01	0.22	. .	0.30	. .
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	1.45	. .	. .	0.37	0.01	. .	0.08	0.02	T	0.70	0.02	. .	1.92	0.16	. .	0.02	0.02
258	0.01	. .	. .	1.23	. .	. .	. .	1.15	. .	1.08	. .	. .	0.01	0.26	. .	0.25	. .
253	0.31	. .	. .	0.17	. .	. .	. .	*	1.44	*	2.02	. .	0.37	0.21	. .	0.11	. .
255	0.45	. .	. .	0.14	0.01	. .	0.01	0.03	T	3.20	. .	0.03	0.02	0.14	. .	0.47	0.03
256	0.30	. .	. .	T	. .	. .	. .	0.17	. .	0.16	. .	0.14	0.03	1.14	T	0.79	T

T. Trace, when precipitation is less than 0.01 inch.

No.	Stations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	0.95	. .	. .	. .	*	*	2.46	. .	. .	. .	. .	. .	0.39
4	Eastport, Me. . .	T	0.15	. .	. .	. .	0.15	1.56	0.47	T	. .	. .	. .	. .	0.18
2	Bar Harbor	0.08	. .	. .	. .	*	*	1.55	T	. .	. .	. .	. .	. .	0.41
5	Fairfield	0.22	0.23	. .	0.17	*	*	0.92	. .	. .	. .	. .	. .	. .	0.11
3	Belfast	0.13	. .	. .	. .	T	0.49	0.79	T	. .	. .	. .	. .	. .	T
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	Lewiston	0.13	. .	. .	. .	0.01	0.28	0.14	. .	. .	. .	. .	. .	. .	T
12	Portland	0.12	. .	. .	. .	0.03	0.33	0.45	. .	. .	. .	. .	. .	0.04	0.49
51	Stratford, N.H. .	. .	0.25	0.35	. .	*	0.25	. .	. .	. .	. .	. .	. .	. .	. .
34	Berlin Mills	0.10	. .	0.15	. .	0.32	*	0.50	0.04	. .	. .	. .	. .	. .	0.20
47	North Conway . .	*	0.20	. .	. .	. .	*	0.36	. .	. .	. .	. .	. .	T	. .
49	Plymouth	0.37	. .	. .	0.09	0.10	0.30	. .	. .	. .	. .	. .	. .	. .	. .
39	Hanover	0.68	. .	. .	. .	0.49	. .	. .	. .	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
37	Concord	0.12	. .	. .	. .	0.56	0.46	. .	. .	. .	. .	. .	. .	0.29	. .
52	Walpole	0.17	. .	. .	. .	*	*	0.37	. .	. .	. .	. .	. .	0.92	. .
45	Nashua	0.05	. .	. .	. .	0.22	0.25	0.51	. .	. .	. .	. .	. .	0.15	T
78	Lunenburgh, Vt. .	0.58	. .	. .	0.32	*	0.20	. .	. .	0.20	. .	. .	. .	0.04	. .
73	Burlington	0.05	. .	. .	0.57	0.31	. .	. .	0.03	. .	. .	. .	. .	*	0.03
82	Northfield	0.20	0.02	. .	0.06	0.25	0.05	0.01	. .	. .	. .	. .	. .	T	0.02
75	Cornwall	0.65	. .	. .	0.20	0.18	0.21	.	. .	0.10	. .	. .	. .	. .	. .
74	Chelsea	0 78	. .	. .	0.06	*	0.54	. .	. .	. .	. .	. .	. .	*	0.14
85	Vernon	0.05	. .	. .	. .	0.20	0.10	. .	. .	. .	. .	. .	. .	0.20	. .
77	Jacksonville . . .	0.39	. .	. .	. .	0.32	0.22	0.06	. .	. .	. .	. .	. .	0.20	. .
159	Salem, Mass. . . .	0.15	. .	. .	. .	0.12	0.17	1.56	. .	. .	. .	. .	. .	*	0.20
149	Newburyport . . .	0.16	. .	. .	. .	0.09	0.09	0.70	. .	. .	. .	. .	. .	T	0.29
104	Blue Hill	0.15	. .	. .	. .	0.24	0.18	2.95	T	. .	. .	. .	. .	T	0.06
122	Framingham . . .	. .	. .	. .	. .	*	1.87	. .	. .	. .	. .	. .	. .	*	0.27
120	Fitchburg	0.07	. .	. .	. .	0.18	0.24	0.86	. .	. .	. .	. .	. .	0.05	0.02
123	Gilbertville	0.07	. .	. .	. .	. .	0.04	0.57	. .	. .	. .	. .	. .	. .	0.30
152	Northampton . . .	. .	. .	. .	. .	0.39	0.32	. .	. .	. .	. .	. .	. .	0.16	. .
134	Ludlow	0.05	. .	. .	. .	0.35	0.40	0.25	. .	. .	. .	. .	. .	0.25	. .
155	Provincetown . . .	0.06	. .	. .	. .	T	0.48	1.95	0.01	. .	. .	. .	. .	. .	0.11
146	Nantucket	0.08	. .	. .	. .	. .	0.10	2.32	. .	. .	. .	. .	. .	. .	0.02
114	Cotuit	0.09	. .	. .	. .	. .	1.90	2.43	. .	. .	. .	. .	. .	. .	0.79
153	Plymouth	T	. .	. .	. .	*	*	2.00	. .	. .	. .	. .	. .	. .	0.11
148	New Bedford . . .	0.01	. .	. .	0.01	*	*	1.53	. .	. .	. .	. .	. .	. .	0.26
163	Taunton	0.12	. .	. .	. .	0.77	0.18	1.02	T	. .	. .	. .	. .	. .	0.19
202	Bristol, R. I. . . .	0.04	. .	. .	. .	*	0.63	0.97	. .	. .	. .	. .	. .	. .	0.05
207	Providence	T	. .	. .	. .	*	*	2.53	. .	. .	. .	. .	. .	. .	0.05
201	Block Island	0.01	. .	. .	. .	0.14	0.63	0.78	. .	0.01	. .	. .	. .	. .	. .
233	Voluntown, Conn.	. .	. .	. .	. .	0.50	2.10	1.28	. .	. .	. .	. .	. .	. .	T
229	New London . . .	0.03	. .	. .	. .	0.80	0.42	1.20	T	. .	. .	. .	. .	. .	. .
224	Hartford	T	. .	. .	. .	0.96	0.95	2.02	. .	. .	. .	. .	. .	T	0.02
234	Wallingford	. .	. .	. .	. .	1.04	2.57	0.08	. .	. .	. .	. .	. .	. .	. .
235	Waterbury	. .	. .	. .	. .	0.90	0.12	0.37	. .	. .	. .	. .	. .	0.01	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	0.19	. .	. .	0.18	0.47	0.40	. .	. .	. .	. .	. .	. .	0.43	T
258	Poughkeepsie . . .	. .	. .	. .	. .	0.75	. .	. .	. .	. .	. .	. .	. .	. .	0.11
253	Carmel	. .	. .	. .	1.29	0.13	. .	. .	. .	. .	. .	. .	. .	. .	. .
255	New York	0.02	. .	0.06	. .	1.21	0.44	0.04	T	. .	. .	. .	. .	. .	T
256	Setauket	T	. .	T	. .	1.18	0.96	0.94	. .	. .	. .	. .	. .	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	. .	. .	1.09	. .	. .	0.05	. .	. .	. .	. .	. .	. .	. .	0.20	. .	
4	. .	. .	. .	0.13	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.01	
2	. .	. .	. .	0.10	. .	. .	0.01	. .	. .	. .	. .	. .	. .	. .	. .	. .	
5	. .	. .	0.14	0.27	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
3	. .	. .	0.02	0.12	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	T	. .	
7	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
8	. .	. .	. .	0.37	. .	. .	0.02	. .	T	. .	. .	. .	. .	. .	0.05	. .	
12	. .	. .	. .	0.21	0.07	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.20	. .	
51	. .	. .	. .	0.58	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	
34	. .	. .	0.04	0.40	. .	. .	0.04	. .	. .	. .	. .	. .	. .	0.06	. .	. .	
47	. .	. .	. .	0.30	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	. .	. .	
49	. .	. .	0.09	0.15	. .	. .	0.13	. .	. .	. .	. .	. .	. .	. .	. .	. .	
39	. .	. .	. .	0.23	. .	. .	0.14	. .	. .	. .	. .	. .	. .	. .	. .	. .	
40	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
37	0.01	. .	. .	0.33	. .	. .	0.14	. .	. .	. .	. .	. .	. .	. .	0.18	. .	
52	0.12	. .	. .	. .	. .	. .	. .	. .	0.07	. .	. .	. .	. .	. .	0.10	. .	
45	0.05	. .	0.02	0.01	. .	. .	0.04	. .	. .	. .	. .	. .	. .	. .	0.28	. .	
78	. .	. .	. .	0.71	. .	. .	0.06	0.03	. .	. .	. .	. .	. .	. .	T	. .	
73	. .	. .	. .	0.57	. .	. .	0.31	. .	. .	. .	. .	. .	. .	. .	0.57	. .	
82	. .	0.02	. .	0.20	0.01	. .	0.10	. .	. .	. .	. .	. .	. .	. .	0.04	. .	
75	. .	. .	. .	0.71	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.20	. .	
74	T	. .	T	0.40	. .	. .	0.14	. .	. .	. .	. .	. .	. .	. .	. .	0.08	
85	. .	. .	. .	0.08	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.20	. .	
77	. .	. .	0.02	0.15	. .	. .	. .	. .	. .	0.03	. .	. .	. .	. .	0.08	. .	
159	. .	0.02	*	0.04	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.05	
149	. .	T	0.20	. .	0.11	. .	T	. .	. .	. .	. .	. .	. .	. .	0.02	. .	
104	. .	0.10	. .	. .	. .	. .	. .	0.03	T	. .	. .	. .	. .	0.01	T	0.10	
122	*	0.11	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.10	. .	
120	. .	. .	. .	. .	0.14	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.31	. .	
123	. .	0.03	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.30	. .	
152	. .	. .	0.04	0.03	. .	. .	0.01	. .	. .	. .	. .	. .	. .	. .	1.87	. .	
134	T	. .	0.02	. .	0.10	. .	. .	T	. .	. .	. .	. .	. .	T	0.35	. .	
155	. .	T	0.10	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.07	T	
146	. .	0.52	. .	0.02	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.06	. .	
114	0.17	. .	T	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.04	0.03	0.10	
153	. .	. .	. .	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.07	. .	
148	*	0.10	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.03	0.04	. .	
163	0.02	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.10	
202	*	0.11	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.01	0.01	
207	0.03	. .	. .	. .	. .	. .	. .	T	. .	. .	. .	. .	. .	. .	. .	0.16	
201	. .	0.08	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.04	
233	0.20	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.01	. .	0.01	. .	
229	. .	0.03	. .	. .	. .	. .	. .	. .	0.05	. .	. .	. .	. .	0.03	0.03	0.01	
224	T	0.03	T	. .	. .	. .	. .	T	0.32	. .	. .	. .	T	. .	0.16	. .	
234	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.15	. .	
235	0.06	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.22	. .	
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
251	. .	0.02	0.16	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.09	. .	
258	. .	0.12	. .	. .	. .	. .	. .	. .	0.06	. .	. .	. .	. .	. .	0.09	. .	
253	0.06	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.19	. .	
255	0.09	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.11	0.01	. .	0.14	. .	
256	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.05	. .	

T. Trace, when precipitation is less than 0.01 inch.

No	STATIONS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	. .	. .	0.69	. .	. .	1.85	. .	. .	. .	. .	. .	0.90
4	Eastport, Me. . .	. .	. .	. .	. .	0.41	0.02	. .	1.04	. .	. .	0.02	. .	. .	0.95
2	Bar Harbor	. .	. .	. .	. .	0.83	. .	. .	1.80	. .	. .	T	. .	. .	1.00
5	Fairfield	. .	. .	. .	. .	. .	. .	1.02	. .	. .	. .	. .	. .	. .	0.13
3	Belfast	. .	. .	. .	. .	0.10	. .	. .	1.53	. .	. .	. .	. .	. .	0.55
7	Kent's Hill	. .	. .	. .	. .	. .	. .	*	1.64	. .	. .	. .	. .	. .	. .
8	Lewiston	. .	. .	. .	. .	0.01	. .	0.01	1.16	. .	. .	0.01	. .	T	0.44
12	Portland	. .	. .	. .	. .	0.04	. .	T	1.28	. .	. .	0.01	. .	. .	1.17
51	Stratford, N.H. .	. .	. .	. .	. .	. .	. .	*	0.61	. .	. .	0.08	. .	. .	0.13
34	Berlin Mills	. .	. .	. .	. .	. .	*	0.55	. .	. .	0.18	. .	. .	0.18	. .
47	North Conway . .	. .	. .	. .	. .	. .	. .	*	0.97	. .	. .	0.07	. .	. .	0.62
49	Plymouth	. .	. .	. .	. .	. .	. .	*	0.48	. .	. .	. .	. .	*	0.15
39	Hanover	. .	. .	. .	. .	. .	. .	*	0.76	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	. .	. .	. .	*	0.92	. .	. .	. .	. .	0.71	. .
37	Concord	. .	. .	. .	. .	. .	. .	0.50	0.45	. .	. .	. .	. .	0.60	0.25
52	Walpole	. .	. .	. .	. .	. .	. .	*	1.05	. .	. .	. .	. .	*	0.10
45	Nashua	. .	. .	. .	. .	. .	. .	0.30	0.68	. .	. .	T	. .	0.27	0.16
78	Lunenburgh, Vt. .	. .	. .	. .	. .	. .	. .	*	0.13	. .	. .	0.10	. .	. .	. .
73	Burlington	. .	. .	. .	. .	0.03	. .	*	1.00	. .	. .	0.10	. .	. .	. .
82	Northfield	. .	. .	. .	. .	T	. .	0.10	0.90	T	. .	0.04	. .	. .	. .
75	Cornwall	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
74	Chelsea	. .	. .	. .	. .	0.01	. .	0.22	0.78	. .	. .	0.01	. .	. .	T
85	Vernon	. .	. .	. .	. .	. .	. .	0.25	0.70	. .	. .	. .	. .	. .	. .
77	Jacksonville	. .	. .	. .	. .	. .	. .	0.29	1.00	. .	. .	. .	. .	. .	0.02
159	Salem, Mass. . . .	. .	. .	. .	. .	0.23	. .	*	1.77	. .	. .	T	. .	*	1.93
149	Newburyport . . .	. .	. .	. .	. .	0.07	. .	0.08	1.10	. .	. .	0.05	. .	0.16	1.50
104	Blue Hill	. .	. .	. .	. .	0.26	. .	0.18	2.31	. .	. .	0.05	. .	0.34	1.41
122	Framingham . . .	. .	. .	. .	. .	0.14	. .	0.02	1.51	. .	. .	0.08	. .	*	0.55
120	Fitchburg	. .	. .	. .	. .	0.01	. .	0.24	0.94	. .	. .	0.04	. .	1.05	0.16
123	Gilbertville	. .	. .	. .	. .	. .	. .	T	0.70	. .	. .	. .	. .	1.01	0.71
152	Northampton . . .	. .	. .	. .	. .	. .	. .	*	0.78	. .	. .	. .	. .	0.71	. .
134	Ludlow	. .	. .	. .	. .	. .	. .	0.05	0.70	. .	. .	. .	. .	1.00	0.50
155	Provincetown . . .	. .	. .	. .	. .	0.61	. .	0.20	1.67	. .	. .	T	. .	1.07	0.67
146	Nantucket	. .	. .	. .	. .	0.12	. .	0.17	0.88	. .	. .	. .	. .	0.94	1.03
114	Cotuit	. .	. .	. .	. .	1.12	. .	*	1.74	. .	. .	. .	. .	*	3.89
153	Plymouth	. .	. .	. .	. .	0.47	. .	*	1.76	. .	. .	*	*	*	2.26
148	New Bedford . . .	. .	. .	. .	0.01	0.41	. .	0.02	2.12	. .	. .	0.02	. .	*	1.67
163	Taunton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
202	Bristol, R. I. . . .	. .	. .	. .	. .	. .	. .	*	1.75	. .	. .	0.01	. .	*	0.59
207	Providence	. .	. .	. .	. .	0.06	. .	*	2.36	. .	. .	T	. .	*	0.53
201	Block Island	. .	. .	. .	. .	0.03	. .	0.36	2.00	. .	. .	. .	. .	0.36	1.10
233	Voluntown, Conn.	. .	. .	. .	. .	0.32	. .	0.10	2.90	. .	. .	. .	. .	0.75	T
229	New London . . .	. .	. .	. .	. .	0.02	. .	0.20	2.71	. .	. .	T	. .	0.80	0.15
224	Hartford	. .	. .	. .	. .	0.18	0.59	. .	. .	. .	. .	. .	. .	1.81	0.01
234	Wallingford	. .	. .	. .	. .	. .	. .	*	0.95	. .	. .	. .	. .	. .	1.93
235	Waterbury	. .	. .	. .	. .	. .	. .	0.04	0.58	. .	. .	. .	. .	*	1.14
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	. .	. .	0.01	. .	. .	. .	0.40	0.70	. .	. .	. .	. .	. .	. .
258	Poughkeepsie . . .	. .	. .	. .	. .	. .	. .	0.38	0.45	. .	. .	. .	. .	. .	. .
253	Carmel	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
255	New York	. .	. .	. .	. .	. .	T	0.27	0.37	. .	. .	. .	. .	0.45	. .
256	Setauket	. .	. .	. .	. .	. .	. .	0.23	1.00	. .	. .	.	. .	2.85	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	*	0.12	. .	. .	. .	*	0.57	. .	*	1.96	. .	0.41	0.31	. .	. .	. .	. .
4	T	0.01	. .	. .	T	0.09	0.59	. .	0.77	0.08	. .	0.38	0.06	0.01	. .	. .	. .
2	T	. .	. .	. .	0.01	0.26	0.05	. .	0 39	. .	. .	0.37	0.05	. .	. .	. .	. .
5	. .	. .	. .	. .	. .	*	0.17	. .	. .	. .	. .	. .	0.06	. .	. .	. .	. .
3	. .	. .	. .	. .	. .	0.65	. .	. .	T	. .	. .	0.11	0.03	. .	. .	. .	. .
7	. .	. .	. .	. .	. .	0.48	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	T	. .	. .	. .	. .	0.60	0.01	. .	T	. .	. .	0.10	0.05	0.01	. .	. .	T
12	. .	. .	. .	. .	. .	0.39	0.02	. .	. .	. .	. .	0.10	0.21	. .	. .	. .	. .
51	T	. .	. .	. .	. .	*	0.10	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
34	0.08	. .	. .	. .	*	0.75	. .	. .	. .	. .	*	*	0.15	. .	. .	. .	. .
47	0.06	. .	. .	. .	. .	. .	0.72	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
49	. .	. .	. .	. .	. .	0.74	0.02	. .	. .	. .	. .	0.07	. .	. .	. .	. .	0.20
39	0.03	0.01	. .	. .	. .	*	0.64	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.06
40	. .	. .	. .	. .	. .	0.69	. .	. .	. .	. .	. .	0.06	0.05	. .	. .	. .	. .
87	. .	. .	. .	. .	. .	0.77	. .	. .	. .	. .	. .	0.01	0.05	. .	. .	. .	. .
52	0.10	. .	. .	. .	. .	0.81	. .	. .	. .	. .	. .	*	0.16	. .	. .	. .	0.02
45	. .	. .	. .	. .	. .	0.78	. .	. .	T	. .	. .	T	0.14	. .	. .	. .	*
78	. .	0.18	. .	. .	. .	0.04	0.03	T	. .	. .	. .	*	0.03	. .	. .	. .	. .
73	. .	. .	. .	. .	. .	1.03	0.02	. .	. .	T	. .	. .	0.64	. .	. .	. .	0.20
82	T	0.03	. .	. .	. .	0.60	0.13	0.01	. .	T	. .	T	0.03	T	. .	. .	0.03
75	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
74	. .	0.02	. .	. .	. .	1.20	0.10	. .	. .	0.01	. .	0.02	0.04	. .	. .	. .	0.02
85	. .	. .	. .	. .	. .	0.95	. .	. .	. .	. .	. .	. .	0.12	. .	. .	. .	. .
77	T	. .	. .	. .	. .	1.37	0.03	. .	. .	. .	. .	. .	0.08	. .	. .	. .	. .
159	0.03	. .	. .	. .	. .	0.68	. .	. .	0.63	. .	. .	*	0.18	. .	. .	. .	. .
149	. .	. .	. .	. .	. .	0.79	. .	. .	0.15	. .	. .	0.02	0 40	. .	. .	. .	T
104	0.02	. .	. .	. .	T	0.78	. .	T	0.42	. .	. .	0.01	0.12	T	. .	. .	. .
122	0.02	. .	. .	. .	. .	0.70	. .	. .	0.58	. .	. .	*	0.10	. .	. .	. .	. .
120	0.01	. .	. .	. .	. .	1.20	. .	. .	0.04	. .	. .	. .	0.04	. .	. .	. .	. .
123	. .	. .	. .	. .	. .	1.10	. .	. .	0.15	. .	. .	. .	0.15	. .	. .	. .	. .
152	. .	. .	. .	. .	. .	1.15	. .	. .	. .	. .	. .	0.06	0.06	. .	. .	. .	. .
134	T	T	. .	. .	. .	1.30	. .	. .	0.03	. .	. .	0.05	0.10	. .	. .	. .	. .
155	0.12	. .	. .	. .	T	0.38	. .	T	0.58	. .	. .	T	0.53	T	. .	. .	. .
146	0.28	T	. .	. .	0.01	0.21	0.09	0.01	0.79	. .	. .	. .	0.41	0.02	. .	. .	. .
114	0.25	. .	. .	. .	*	0.85	. .	*	1.66	. .	. .	0.03	0.45	0.15	. .	. .	. .
153	T	. .	. .	. .	. .	0.82	. .	*	0.32	. .	. .	. .	0.09	T	. .	. .	. .
148	0.13	. .	. .	. .	. .	0.74	. .	*	0.82	. .	. .	0.01	0.46	. .	. .	. .	. .
163	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
202	0.12	. .	. .	. .	. .	0.62	. .	*	0.30	. .	. .	*	0.29	. .	. .	. .	. .
207	0.03	. .	. .	. .	. .	0.80	. .	*	0.75	. .	. .	. .	0.17	. .	. .	. .	. .
201	0.26	0.06	. .	. .	. .	1.24	. .	0.43	1.14	. .	. .	. .	0.35	. .	. .	. .	. .
233	T	. .	. .	. .	. .	1.00	. .	0.25	1.30	. .	. .	T	0.20	. .	. .	. .	. .
229	0.01	. .	. .	. .	T	0.95	. .	0.45	0.91	. .	. .	T	0.30	. .	. .	. .	. .
224	. .	. .	. .	. .	. .	0.93	T	0.01	0.02	. .	. .	. .	0.02	. .	. .	. .	. .
234	. .	. .	. .	. .	. .	0.56	. .	. .	0.55	. .	. .	*	0.23	. .	. .	. .	. .
235	. .	. .	. .	. .	. .	1.00	. .	0.15	T	. .	. .	T	0.13	. .	. .	. .	. .
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	0.10	T	. .	. .	. .	0.83	0.03	. .	. .	. .	. .	0.03	0.03	T	. .	. .	T
258	. .	T	. .	. .	0.06	0.75	. .	T	. .	. .	. .	T	0.17	. .	. .	. .	. .
253	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
255	0.01	. .	. .	. .	0.08	0.39	. .	0.73	0.18	. .	. .	0.08	0.13	. .	. .	. .	. .
256	0.02	. .	. .	. .	T	0.65	. .	0.97	0.48	. .	. .	0.03	0.37	. .	. .	. .	. .

T. Trace, when precipitation is less than 0.01 inch.

No.	STATION.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	0.08	. .	. .	. .	. .	. .	. .	. .	. .	*	0.09	0.69	. .	. .
4	Eastport, Me. . .	0.03	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.09	0.21	. .	. .
2	Bar Harbor	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.50	. .	. .	. .
5	Fairfield	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.50	. .	. .	. .
3	Belfast	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.30	T	. .	. .
7	Kent's Hill	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	T	. .	. .	. .
8	Lewiston	0.01	. .	. .	. .	. .	. .	. .	. .	. .	T	0.35	0.01	. .	. .
12	Portland	T	. .	. .	. .	. .	. .	. .	. .	. .	T	0.36	0.02	. .	. .
51	Stratford, N.H. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1.00	0.24	. .	T
34	Berlin Mills	*	0.11	. .	. .	. .	. .	. .	. .	. .	. .	*	0.67	. .	. .
47	North Conway . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.02	0.83	. .	. .	. .
39	Hanover	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.65	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.30	0.07	. .	. .
37	Concord	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.22	. .	. .	. .
52	Walpole	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.95	T	. .	. .
45	Nashua	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.18	. .	. .	. .
78	Lunenburgh, Vt. .	0.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.85	0.25	. .	T
73	Burlington	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1.00	0.29	. .	0.04
82	Northfield	0.01	T	. .	. .	. .	. .	. .	. .	. .	. .	0.51	0.05	0.02	T
75	Cornwall	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.50	0.30	. .
74	Chelsea	0 32	T	T	. .	. .	. .	. .	. .	. .	T	0.43	0.08	. .	0.01
85	Vernon	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.92	. .	. .	. .
77	Jacksonville . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	1.00	0.03	. .	. .
159	Salem, Mass. . . .	. .	. .	. .	. .	*	0.05	. .	. .	. .	. .	*	0.24	. .	. .
149	Newburyport . . .	. .	. .	. .	T	T	. .	. .	. .	. .	0.02	0.19	T	. .	. .
104	Blue Hill	T	. .	. .	. .	T	0.01	. .	. .	. .	T	0.46	. .	. .	. .
122	Framingham . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.32	. .	. .	. .
120	Fitchburg	0.02	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.44	. .	. .	. .
123	Gilbertville	T	. .	. .	. .	. .	. .	. .	. .	. .	T	0.33	0.03	. .	. .
152	Northampton . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.89	. .	. .	. .
134	Ludlow	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.50	T	. .	. .
155	Provincetown . . .	. .	. .	. .	. .	T	T	T	. .	T	T	0.16	T	. .	. .
146	Nantucket	. .	. .	. .	. .	0.01	0.02	0.04	. .	0.02	0.03	0.04	0.28	. .	. .
114	Cotuit	. .	. .	. .	. .	. .	0.11	0.03	. .	. .	0.02	0.17	. .	. .	. .
153	Plymouth	. .	. .	. .	T	0.06	. .	0.07	T	. .	. .	0.08	. .	. .	. .
148	New Bedford . . .	. .	. .	. .	. .	*	0.17	. .	. .	. .	*	0.11	. .	. .	. .
163	Taunton	. .	. .	. .	. .	T	0.06	. .	. .	0.01	0.02	0.16	0.01	. .	. .
202	Bristol, R. I. . . .	. .	. .	. .	. .	. .	0.02	. .	. .	. .	0.01	0.19	. .	. .	. .
207	Providence	. .	. .	. .	. .	T	. .	. .	. .	*	*	0.30	. .	. .	. .
201	Block Island	. .	. .	. .	. .	0.02	0.14	. .	. .	. .	0.01	0.10	. .	. .	. .
233	Voluntown, Conn.	. .	. .	. .	. .	T	. .	. .	. .	T	0.03	0.25	. .	. .	. .
229	New London . . .	0.01	. .	. .	. .	T	. .	. .	. .	T	0.08	0.20	0.01	. .	. .
224	Hartford	. .	. .	. .	. .	. .	. .	. .	. .	. .	T	0.46	. .	. .	. .
234	Wallingford	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.57	. .	. .	. .
235	Waterbury	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.02	0.68	. .	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	0.04	. .	. .	. .	. .	. .	. .	. .	. .	0.02	0.88	0.05	. .	. .
258	Poughkeepsie . . .	. .	. .	. .	. .	. .	. .	. .	. .	. .	*	0.35	T	. .	. .
253	Carmel	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.71	. .	. .	. .
255	New York	. .	. .	. .	. .	0.03	. .	. .	. .	. .	0.08	0.38	. .	. .	. .
256	Setauket	. .	. .	. .	. .	T	. .	. .	. .	. .	0.05	0.35	. .	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	. .	*	1.32	. .	. .	. .	. .	. .	. .	0.18	0.03	. .	0.76	0.59	. .	. .	
4	. .	. .	0.59	0.52	. .	. .	. .	. .	. .	0.04	. .	0.01	0.45	0.30	0.07	. .	
2	. .	*	0.92	. .	. .	. .	. .	. .	0.12	. .	. .	*	1.26	0.32	. .	. .	
5	. .	*	0.26	. .	. .	. .	. .	*	0.38	. .	. .	. .	0.86	0.14	. .	. .	
3	. .	*	0.56	. .	. .	. .	. .	. .	*	0.50	. .	*	1.35	0.31	. .	. .	
7	. .	*	0.19	. .	. .	. .	. .	. .	*	0.81	. .	*	0.79	. .	. .	. .	
8	. .	0.03	0.30	. .	. .	. .	. .	0.01	0.25	0.69	. .	. .	0.83	0.18	. .	. .	
12	. .	T	0.20	0.08	. .	. .	. .	. .	0.08	0.46	. .	T	1.10	0.08	T	. .	
51	. .	. .	0.61	T	. .	. .	. .	0.07	0.30	. .	. .	. .	0.15	0.25	. .	. .	
34	. .	. .	*	0.55	. .	. .	0.05	. .	*	0.93	. .	*	0.15	. .	. .	. .	
47	. .	. .	. .	. .	. .	. .	. .	. .	1.22	. .	. .	. .	0.34	. .	. .	. .	
49	. .	0.03	0.73	. .	. .	. .	. .	0.12	1.11	. .	. .	. .	0.42	. .	. .	. .	
39	. .	. .	0.52	0.02	. .	. .	. .	T	0.12	0.37	. .	*	0.32	. .	. .	. .	
40	. .	. .	0.75	. .	. .	. .	. .	. .	0.81	. .	. .	*	0.46	0.04	. .	. .	
37	. .	0.02	0.32	. .	. .	. .	. .	0.01	0.65	. .	. .	0.10	0.41	T	. .	. .	
52	. .	*	0.56	. .	. .	. .	. .	*	0.68	. .	. .	*	0.20	0.23	. .	. .	
45	. .	0.02	0.44	. .	. .	. .	. .	. .	0.59	. .	. .	0.17	0.75	0.03	. .	. .	
78	. .	*	0.50	T	. .	. .	. .	T	*	0.30	. .	. .	0.20	0.35	. .	. .	
73	. .	0.01	0.60	. .	. .	. .	. .	0.01	0.33	. .	T	0.03	0.02	0.40	. .	. .	
82	. .	. .	0.23	T	. .	. .	. .	0.02	0.39	0.55	T	. .	0.18	0.18	. .	. .	
75	. .	. .	0.10	. .	0.48	. .	. .	. .	0.46	. .	. .	. .	0.25	0.24	. .	. .	
74	. .	T	0.37	. .	. .	. .	. .	0.10	0.56	0.08	T	T	0.28	0.23	. .	. .	
85	. .	0.18	0.63	. .	. .	. .	. .	. .	0.62	. .	. .	0.45	. .	. .	. .	. .	
77	. .	*	1.20	0.06	. .	. .	. .	0 10	1.16	. .	T	0.43	. .	0.12	. .	. .	
159	. .	. .	0.21	0.21	. .	. .	. .	. .	T	. .	. .	*	1.21	0.01	. .	. .	
149	. .	. .	0.41	. .	. .	. .	. .	. .	0.20	0.06	. .	0.05	1.39	0.02	. .	. .	
104	. .	T	0.75	. .	. .	. .	. .	. .	0.13	0.14	. .	0.03	1 40	T	. .	. .	
122	. .	*	0.78	. .	. .	. .	. .	. .	0.52	. .	. .	*	1.38	0.04	. .	. .	
120	. .	0.08	0.64	. .	. .	. .	. .	. .	0.57	0.17	. .	0.06	0.94	0.05	. .	. .	
123	. .	T	0.10	0.15	. .	. .	. .	. .	*	0.55	. .	. .	1.00	0.15	. .	. .	
152	. .	0.15	0.64	. .	. .	. .	. .	. .	0.67	. .	. .	0.45	. .	. .	. .	. .	
134	. .	0.10	1.15	. .	. .	. .	. .	T	0.20	0.35	. .	0.20	0.40	0.10	. .	. .	
155	. .	T	0.63	. .	. .	. .	. .	. .	0.28	. .	. .	T	0.44	T	T	T	
146	. .	. .	0.22	. .	. .	. .	. .	. .	0.01	. .	0.08	0.25	. .	. .	0.02	T	
114	. .	0.04	0.50	. .	. .	. .	. .	. .	0 22	. .	. .	. .	0.53	0.10	. .	. .	
153	. .	*	0.23	. .	. .	. .	. .	. .	1.35	. .	. .	. .	. .	. .	. .	. .	
148	. .	*	0.56	0.23	. .	. .	. .	. .	*	0.33	. .	*	1.62	0.05	. .	. .	
163	. .	*	1.15	. .	. .	. .	. .	. .	*	0.19	. .	0.05	1.33	0.04	. .	. .	
202	. .	*	1.00	. .	. .	. .	. .	. .	*	0.13	. .	*	1.16	0.01	. .	. .	
207	. .	*	0.86	. .	. .	. .	. .	. .	0.29	. .	. .	*	1.36	0.03	. .	. .	
201	. .	. .	0.68	0.06	. .	. .	. .	. .	0.20	0.01	. .	. .	1.63	0.04	. .	. .	
233	. .	0.12	1.33	. .	. .	. .	. .	T	0.50	. .	. .	0.07	1.27	. .	. .	. .	
229	. .	0.03	1.15	0.12	. .	. .	. .	. .	0.25	0.15	. .	0.10	1.15	0.12	. .	. .	
224	. .	0.03	1.10	. .	. .	. .	. .	. .	0.37	. .	. .	0.12	0.53	0.03	. .	. .	
234	. .	0.40	0.53	. .	. .	. .	. .	. .	0.52	. .	. .	0.83	. .	0.02	. .	. .	
235	. .	*	1.22	. .	. .	. .	. .	. .	0.81	. .	. .	*	0.56	0.04	. .	. .	
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	
251	. .	0.02	0.57	. .	. .	. .	. .	0.03	0.49	. .	. .	0.01	0.19	0.10	T	. .	
258	. .	T	0.55	. .	. .	. .	T	. .	0.96	. .	. .	0.20	T	0.05	. .	. .	
253	. .	0.09	1.09	. .	. .	. .	. .	. .	*	1.45	. .	*	0.23	. .	. .	. .	
255	. .	0.06	0.44	. .	. .	. .	. .	T	0.53	. .	. .	0.23	0.29	0.02	T	. .	
256	. .	0.02	0.63	. .	. .	. .	. .	. .	0.31	. .	. .	0.12	0.76	T	. .	. .	

T. Trace, when precipitation is less than 0.01 inch.

No.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	St. John, N. B. . .	. .	. .	. .	. .	0.27	. .	0.43	. .	. .	. .	. .	. .	0.01	. .
4	Eastport, Me. . .	. .	. .	. .	. .	0.13	. .	0.50	. .	. .	. .	. .	. .	T	. .
2	Bar Harbor	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
5	Fairfield	. .	. .	. .	. .	0.45	. .	0.09	. .	. .	. .	. .	. .	. .	. .
3	Belfast	. .	. .	. .	*	0.60	. .	0.20	. .	. .	. .	. .	. .	. .	. .
7	Kent's Hill	. .	. .	. .	*	0.88	. .	. .	. .	. .	. .	. .	. .	. .	. .
8	Lewiston	. .	. .	. .	0.14	0.60	. .	0.15	. .	. .	. .	. .	. .	. .	. .
12	Portland	. .	. .	. .	0.06	0.36	. .	0.11	. .	. .	. .	. .	. .	. .	. .
51	Stratford, N.H. .	. .	. .	. .	*	0.64	. .	. .	. .	. .	. .	. .	. .	. .	. .
34	Berlin Mills	. .	. .	*	1.06	. .	0.05	. .	. .	. .	. .	. .	. .	. .	. .
47	North Conway . .	. .	. .	. .	1.50	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
49	Plymouth	. .	. .	. .	0.57	0.40	. .	T	. .	. .	. .	. .	. .	. .	. .
39	Hanover	. .	. .	. .	0.45	. .	. .	0.05	. .	. .	. .	. .	. .	. .	. .
40	Lake Village . . .	. .	. .	. .	0.39	. .	. .	0.07	. .	. .	. .	. .	. .	. .	. .
37	Concord	. .	. .	. .	0.43	. .	. .	0.11	. .	. .	. .	. .	. .	. .	. .
52	Walpole	. .	. .	. .	*	0.65	. .	0.15	. .	. .	. .	. .	. .	. .	. .
45	Nashua	. .	. .	. .	0.46	. .	. .	0.14	. .	. .	. .	. .	. .	. .	. .
78	Lunenburgh, Vt. .	. .	. .	. .	*	0.40	. .	. .	. .	. .	. .	. .	. .	. .	. .
73	Burlington	. .	. .	. .	0.40	. .	. .	0.01	. .	. .	. .	. .	. .	. .	. .
82	Northfield	. .	. .	. .	T	0.10	. .	T	T	. .	. .	. .	. .	. .	. .
75	Cornwall	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	0.20
74	Chelsea	. .	. .	. .	*	0.50	T	. .	. .	. .	. .	. .	. .	. .	. .
85	Vernon	. .	. .	. .	0.16	. .	. .	0.23	. .	. .	. .	. .	. .	. .	. .
77	Jacksonville . . .	. .	. .	. .	0.18	1.06	. .	0.28	. .	. .	. .	. .	. .	. .	. .
159	Salem, Mass. . . .	. .	. .	. .	*	0 24	. .	0.30	. .	. .	. .	. .	. .	. .	. .
149	Newburyport . . .	. .	. .	. .	0 13	0.18	. .	0.16	. .	. .	. .	. .	. .	. .	. .
104	Blue Hill	. .	. .	. .	0.10	0.39	. .	0.47	. .	. .	. .	. .	. .	. .	. .
122	Framingham . . .	. .	. .	. .	0.52	. .	. .	0.43	. .	. .	. .	. .	. .	. .	. .
120	Fitchburg	. .	. .	. .	0.64	0.14	. .	0.14	. .	. .	. .	. .	. .	. .	. .
123	Gilbertville	. .	. .	. .	0.45	0.55	. .	0.27	. .	. .	. .	. .	. .	. .	. .
152	Northampton . . .	. .	. .	. .	0.73	. .	. .	0.09	. .	. .	. .	. .	. .	. .	. .
134	Ludlow	. .	. .	. .	0.20	0.60	. .	0.25	. .	. .	. .	. .	. .	. .	. .
155	Provincetown . . .	. .	. .	. .	0.27	. .	. .	0.40	. .	. .	. .	. .	. .	. .	. .
146	Nantucket	. .	. .	. .	0.01	0.20	. .	0.20	. .	. .	. .	. .	. .	. .	T
114	Cotuit	. .	. .	. .	0.38	. .	. .	0.62	. .	. .	. .	. .	. .	. .	. .
153	Plymouth	. .	. .	. .	*	0 24	. .	0.74	. .	. .	. .	. .	. .	. .	. .
148	New Bedford . . .	. .	. .	. .	0.20	. .	. .	0.84	. .	. .	. .	. .	. .	. .	. .
163	Taunton	. .	. .	. .	*	0.33	. .	0.85	. .	. .	. .	. .	. .	. .	. .
202	Bristol, R. I. . . .	. .	. .	. .	0.35	. .	. .	0.50	. .	. .	. .	. .	. .	. .	. .
207	Providence	. .	. .	. .	0.35	. .	. .	0.76	. .	. .	. .	. .	. .	. .	. .
201	Block Island	. .	. .	. .	0.08	0.12	. .	0.65	. .	. .	. .	. .	. .	. .	. .
233	Voluntown, Conn.	. .	. .	. .	0.50	. .	. .	0.76	. .	. .	. .	. .	. .	. .	. .
229	New London . . .	. .	. .	. .	0.50	0.10	. .	0.83	. .	. .	. .	. .	. .	. .	T
224	Hartford	. .	. .	. .	0.94	. .	. .	0.64	. .	. .	. .	. .	. .	. .	. .
234	Wallingford	. .	. .	. .	0.73	. .	. .	0.87	. .	. .	. .	. .	. .	. .	. .
235	Waterbury	. .	. .	. .	1.05	. .	. .	0.69	. .	. .	. .	. .	. .	. .	. .
230	Shelton	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	Albany, N.Y. . .	. .	. .	. .	0.60	0.02	. .	0.04	. .	. .	. .	. .	. .	. .	. .
258	Poughkeepsie . . .	. .	. .	. .	0.80	. .	. .	0.35	. .	. .	. .	. .	. .	. .	. .
253	Carmel	. .	. .	. .	1.09	. .	. .	0.50	. .	. .	. .	. .	. .	. .	. .
255	New York	. .	. .	. .	0.45	T	. .	0.48	. .	. .	. .	. .	. .	. .	. .
256	Setauket	. .	. .	. .	0.60	. .	. .	0.50	. .	. .	. .	. .	. .	. .	. .

* Precipitation included in that of following day.

No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	*	0.57	. .	. .	. .	. .	. .	. .	*	0.98	0.32	*	0.47	. .	. .	0.42	0.04
4	0.10	0.25	. .	. .	. .	. .	. .	T	0.62	0.24	0.26	0.09	0.15	. .	T	0.62	0.03
2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
5	*	0.74	. .	. .	. .	. .	. .	. .	0.40	0.40	. .	0.28	. .	. .	*	2.20	. .
3	*	0.95	. .	. .	. .	. .	. .	. .	0.57	0.25	T	0.18	. .	. .	*	2.35	. .
7	*	1.05	. .	. .	. .	. .	. .	. .	. .	. .	. .	1.03	. .	. .	*	2.61	. .
8	0.63	0.20	. .	. .	. .	. .	T	. .	0.44	0.25	0.12	0.43	0.12	. .	0.15	2.04	. .
12	0.62	0.36	. .	. .	. .	. .	. .	. .	0.49	0.36	0.28	0.31	0.02	. .	0.02	1.28	. .
51	*	1.15	. .	. .	. .	. .	. .	. .	0.49	*	0.22	0.34	. .	. .	*	0.62	. .
34	*	1.23	T	. .	. .	. .	. .	. .	0.37	*	0.30	0.23	. .	. .	*	1.32	. .
47	*	1.42	. .	. .	. .	. .	. .	. .	0.35	. .	. .	0.63	. .	. .	*	2.70	. .
49	0.90	0.68	. .	. .	. .	. .	. .	. .	0.52	0.15	. .	0.48	. .	. .	0.46	1.29	. .
39	0.98	. .	. .	. .	. .	. .	. .	. .	0.35	0.10	. .	0.16	. .	. .	0.80	. .	. .
40	1.07	. .	. .	. .	. .	. .	. .	. .	0.58	0.29	. .	0.42	. .	. .	*	1.50	. .
37	0.86	. .	. .	. .	. .	. .	. .	. .	0.37	0.55	. .	0.28	. .	. .	0.50	1.01	. .
52	*	0.70	. .	. .	. .	. .	. .	. .	*	1.10	. .	. .	. .	. .	1.00	. .	. .
45	0.45	0.10	. .	. .	. .	. .	. .	T	0.30	0.48	0.02	0.24	. .	. .	0.09	1.22	. .
78	*	0.20	. .	. .	. .	. .	. .	*	0.78	T	T	*	0.10	. .	. .	0.25	. .
73	0.52	0.01	. .	. .	. .	. .	. .	. .	0.40	0.05	. .	0.02	0.02	. .	*	0.80	. .
82	0.25	0.65	0.01	. .	. .	. .	. .	. .	0.45	0.15	0.03	0.08	0.01	. .	0.06	0.84	. .
75	0.05	. .	. .	. .	. .	. .	0.10	. .	0.20	. .	. .	0.20	. .	. .	1.20	. .	. .
74	*	1.16	. .	. .	. .	. .	. .	0.01	0.38	*	0.16	0.13	. .	. .	*	0.97	. .
85	0.87	. .	. .	. .	. .	. .	. .	. .	0.95	0.06	. .	0.36	. .	. .	1.26	. .	. .
77	*	1.39	. .	. .	. .	. .	. .	*	0.68	0.80	0.32	0.60	0.02	. .	*	1.23	. .
159	*	0.79	. .	. .	. .	. .	. .	*	0 25	0.16	0.36	*	0.26	. .	*	1.22	. .
149	0.34	0.41	. .	. .	. .	. .	. .	. .	0.52	0.22	0.15	0.25	0.03	. .	0.01	0.87	. .
104	0.05	0.28	. .	. .	. .	. .	. .	. .	0.46	0.47	0.20	0.14	0.03	. .	T	1.48	. .
122	*	0.51	. .	. .	. .	. .	. .	. .	0.42	*	0.67	0.31	. .	. .	*	0.90	. .
120	0.41	0.13	. .	. .	. .	. .	. .	*	0.30	0.61	0.13	0.40	. .	. .	0.04	1.32	. .
123	0.16	0.38	. .	. .	. .	. .	. .	0.11	0.67	0.75	0.03	0.43	0.11	. .	T	1.53	. .
152	0.17	0.30	. .	. .	. .	. .	. .	0.26	0.24	0.83	. .	0.39	. .	. .	1.71	. .	. .
134	0.20	0.40	. .	. .	. .	. .	. .	0.15	0.65	0.60	0.10	0.50	0.10	. .	0.10	1.00	. .
155	0.04	0.06	T	. .	. .	. .	T	T	0.06	0.70	0.05	0.08	0.15	. .	T	1.36	. .
146	0.01	0.05	. .	T	. .	. .	. .	. .	0.01	0.32	0.51	0.54	0.47	. .	. .	0.82	. .
114	. .	0.22	. .	. .	. .	. .	. .	. .	0.02	0.95	. .	0.28	. .	. .	. .	1.30	. .
153	*	0.25	. .	. .	. .	. .	. .	. .	*	*	*	1.55	. .	. .	. .	0.99	. .
148	*	0.22	. .	. .	. .	. .	. .	*	0.21	*	0.98	*	0.27	. .	0.99	. .	. .
163	0.05	0.05	. .	. .	. .	. .	. .	. .	0.47	0.56	0.03	0.23	0.07	. .	T	0.98	. .
202	0.13	. .	. .	. .	. .	. .	. .	. .	0.21	*	*	0.81	. .	. .	*	1.19	. .
207	T	0.20	. .	. .	. .	. .	. .	. .	0.42	*	*	0 92	. .	. .	*	1.60	. .
201	0.01	0.17	. .	. .	. .	. .	. .	. .	0.02	0.55	0.04	0.13	0.10	. .	T	0.94	. .
233	T	0.10	. .	. .	. .	. .	. .	. .	0.10	0.50	T	0.40	. .	. .	0.15	0.85	. .
229	0.01	0.15	. .	. .	. .	. .	T	. .	0.54	0.55	0.10	0.26	0.10	. .	0.04	0.56	. .
224	. .	0 05	. .	. .	. .	. .	. .	T	0.54	0.55	0.09	0.44	. .	. .	0.10	2.00	. .
234	0.10	. .	. .	. .	. .	. .	. .	0.02	0.89	0.50	0.02	0.39	. .	. .	1.45	. .	. .
235	. .	0.12	. .	. .	. .	. .	. .	*	0.85	0.26	. .	0.47	. .	. .	*	2.27	. .
230	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
251	0.14	0.35	0.04	. .	. .	. .	. .	0.01	0 48	0.25	0.02	0.41	. .	0.01	T	0.86	. .
258	0.13	T	. .	. .	. .	. .	. .	0.03	0.50	0.64	0.02	0.39	. .	. .	0.06	0.74	. .
253	*	0.08	. .	. .	. .	. .	. .	*	1.06	0 65	.	0.40	. .	. .	*	1.86	. .
255	T	0.05	. .	. .	. .	. .	. .	. .	0.47	0.86	0.03	0.20	0.02	. .	0.06	0.38	. .
256	T	. .	. .	. .	. .	. .	. .	. .	0.38	0.72	. .	0.20	. .	. .	0.10	0.90	. .

T. Trace, when precipitation is less than 0.01 inch.

THUNDERSTORMS IN NEW ENGLAND DURING THE YEARS 1886 AND 1887.

A REPORT ON OBSERVATIONS MADE BY VOLUNTEER OBSERVERS FOR THE NEW ENGLAND METEOROLOGICAL SOCIETY.

BY

ROBERT DEC. WARD.

Introduction. The observation of thunderstorms was taken as a special subject of investigation by the New England Meteorological Society during the summer seasons of 1885, 1886 and 1887. The Society received a grant from the Bache fund of the National Academy of Sciences, to defray the considerable expense involved in printing circulars of instruction and blanks for records; it received also substantial assistance from the Signal Service, U. S. Army, in clerical work and in the distribution of the circulars and blanks. The records of 1885 have been discussed by Prof. W. M. Davis and the results have been published in the "Proceedings of the American Academy of Arts and Sciences," Vol. XXII, July, 1886, and reprinted in pamphlet form. The present report deals with the records of the years 1886 and 1887.

Reduction of Observations. The report herewith submitted has been prepared as a thesis in the Graduate School of Harvard University and constitutes number nine in a series of "Papers from the Laboratory of Physical Geography," most of which have been published in the American Meteorological Journal. The general plan followed in this work has been the same as that adopted by Prof. Davis. The reports were arranged first by dates, next by storms, if more than one storm occurred on the same day, and lastly by states, assistance in this portion of the work having been given by Prof. E. C. Pickering, Director of the Astronomical Observatory of Harvard College. The times of rain beginning and loudest thunder were then charted on maps varying from a scale of six miles to an inch for days of well reported storms to thirty-five miles to an inch for days when few reports were made. This preliminary charting was done by Mrs. J. Warren Smith. When thus charted, lines marking the half-hourly position of the rain-front were drawn and from these the general extent and progression of the storms were determined. Charts of some of the best developed storms are shown in Plates IX and X, figures 11–22. After reaching this stage in the discussion, the records were again read over in order to obtain from them any further statements of interest; the numerous extracts which are given after the preliminary accounts in the following pages were in this way selected as being the most striking and important notes made in connection with each storm.

Classification of Storms. A scheme of classification was adopted which divided the reports into four classes. Class I includes well-defined storms, of sufficient strength and extension to yield a large number of observations, showing a distinct progression, and covering more than one state. Class II includes well-defined storms, also with distinct progression, but confined within one state, or a small part of two or three states. Class III includes reports of thunder in general rains, or scattered reports which cannot be combined into distinct storms. Class IV includes a few reports of isolated thunder and rain at scattered stations, when the general conditions of weather over New England were fair.

While it is apparent that any such attempt at classification must of necessity be very arbitrary, and that these classes must often grade into one another, yet it is believed that some such scheme must be adopted in order to give a definite basis for comparison of our results. In this report only the storms which showed distinct progression have been described for the months from June to September inclusive.

Connection with Cyclonic Areas. Studies of thunderstorms in the United States as well as in Europe have shown that these storms occur in most cases in connection with an area of low pressure, and usually in the southeast, south or southwest quadrant of the area. In order to determine this relation in New England, and also to secure from this investigation, if possible, a basis for prediction of thunderstorms in this region, particular attention has been paid to this point. From January to June the changes of pressure through the whole month have not been followed, but on days yielding reports of thunderstorms the barometric pressure and weather for the day on which the reports were made have been noted. From June through September, the daily changes of pressure and weather have been followed out, these being the months of the greatest frequency of thunderstorms. Further, whenever any distinct storm was reported, or any record made of thunder or rain, lines have been drawn on an outline map of the United States from the contemporaneous centre of low pressure nearest New England to the district where the storm occurred. Different kinds of lines were used to distinguish the different classes of storms. This charting was necessarily done somewhat roughly. For example, when a storm crossed Massachusetts between 3 and 6 P. M., the line from the centre of low pressure was drawn to central Massachusetts, that being the position of the storm on the middle of its path in New England at 4.30 P. M., while the position of the cyclonic centre at the same hour was inferred from its position at 3 P. M. and 11 P. M. as shown on the maps of the tracks of the centres of low pressure in the "Monthly Weather Review." This was done by eye, the position of the cyclonic centre being roughly determined, in this case, for 4.30 P. M., which was the time when the thunderstorm was in central Massachusetts.

The results of the charting are given at the end of this report, in Plate VII.

THUNDERSTORMS OF 1886. JANUARY TO JUNE.

In describing the pressure and weather conditions the Monthly Bulletins of the New England Meteorological Society and the Washington 7 A. M. weather maps of the U. S. Signal Service have been used.

January. The first record for the year 1886 is on January 5, when Provincetown, Mass., reports a thunderstorm between 7 and 7.30 A. M. On this day there was a cyclonic area central at Rockliffe, Canada, which had moved from Arkansas on January 2, increasing in energy as it travelled eastward. This storm occurred in the morning and in a region of southeast winds, New England being generally cloudy, with heavy rain at Boston.

February. On February 13 a report from Bridgton, Me., says there was lightning and thunder in the west in the evening. The cyclonic centre was over Lake Erie on this day, and as it moved down the St. Lawrence developed into a severe storm with barometer at 21.19 in. at Father Point, Canada, at 7 A. M. of February 14, and a wind velocity of 80 miles an hour. The rainfall in southern Rhode Island and Connecticut was very heavy. On February 14 Lunenburgh, Vt., reports a thunderstorm at 8.30 P. M., and Littleton, N. H., reports lightning in the southeast. From 7 A. M. of February 15 to 7 A. M. of the 16th a cyclonic area moved from eastern Kentucky in a northeasterly direction to the mouth of the St. Lawrence, and a small thunderstorm developed in eastern Massachusetts which moved northeast past St. John, N. B. Blue Hill and Newburyport, Mass., report lightning at 8.15 P. M.; Salem, Mass., reports thunder, lightning and rain, the latter beginning at 9 P. M. and ending at 9.30 P. M. Provincetown mentions lightning but no thunder.

Strafford, Vt., sends a report of thunder at midnight, while Bar Harbor, Me., had two very heavy thundershowers, the first beginning at 8.45 P. M. and ending at 9.45 P. M.; the second beginning at 10 P. M. and continuing till after midnight. The storms were followed by a heavy northwest gale. St. John, N. B., reports lightning and a few peals of distant thunder at 11.45 P. M.

March. On March 19, at 7 A. M. New England was under the influence of an anticyclone, a cyclonic area being then central in Iowa. On March 20, at 7 A. M., the latter had moved into Illinois, giving general cloudiness and some snow in New England. Several stations in Connecticut report a thunderstorm on the evening of March 19, Middletown noting that the storm was very severe and lasted several hours. Setauket, N. Y. (on Long Island), had a hail-storm at 5 P. M., and thunder between 5 and 6 P. M. to the south. This storm, which seems to have had a definite movement to the east, was in the northeastern quadrant of the cyclonic area, which was then one thousand miles to the west. On March 20 Buckland, Conn., reports thunder at 5 A. M. and 4 P. M., with rain during the night, and Canton, Conn., reports a thundershower at 1 A. M. On March 21, during the evening, the primary cyclonic area being then central at Saugeen, Ont., and an auxiliary depression passing to the northeast just off the coast, Thompson, Conn., reports distant thunder and lightning from 11 to 12 P. M., Lowell, Mass., heavy thunder and sharp lightning at 11.30 P. M., and Deerfield, Mass., lightning only. Mr. Clayton reports lightning at Blue Hill at 1 A. M. on March 22, and notes a sudden shift of wind from northeast to west at 12.30 A. M., and then back again to the northeast. The thermograph shows a rise of a degree or two a little after 1 A. M., and the barograph shows marked fluctuations. Hail fell at Lexington. Groton Centre reports thunder and lightning between 1.30 and 2 A. M. Salem had thunder at 1 A. M., and Newburyport reports lightning and distant thunder in the south from 12.30 to 1.45 P. M. Nashua, N. H., reports lightning in the west about 2.30 A. M., but no thunder. Hail and snow fell at the time. Although there are few reports for this storm, still the records agree very well. It seems to have moved off onto the sea about 2 A. M. The cyclonic area at the time this storm occurred was off the coast of Massachusetts. Two reports from Maine show that there was thunder and lightning there, Gardiner and Belfast noting them at 3.45 A. M. and at 6 A. M. respectively. The direction of movement was east.

April. On April 14 New England was under an anticyclonic area, although there was considerable cloudiness and some rain. The cyclonic area was central in Dakota. Albany, N. Y., reports thunder from 1.45 to 2.15 P. M. and rain from 1.40 to 5.45 P. M. April 19 brings several scattered reports of thunder and rain during the afternoon and evening. Anticyclonic conditions prevailed over most of the United States. Deerfield, Mass., reports a thunderstorm from 3.45 to 4.15 P. M. A small but fairly distinct storm seems to have begun in Vermont about 2.30 P. M. and to have moved east across New Hampshire and Maine, reaching the coast after 6 P. M., which shows a velocity of about 40 miles an hour. Strafford, Vt., had thunder at 2.40 P. M. to the south; Windsor, Vt., had rain at 2.45; Hanover, N. H., heavy thunder and rain at 2.30; Littleton, N. H., reports a thundershower on the mountains at 4.30; Wakefield, N. H., observed the storm passing from southwest to east, and reports thunder at 5.15. The clouds are noted as moving northeast. The storm was followed by a general rain.

On April 24 there was a rather poorly defined cyclonic area over the Gulf of St. Lawrence at 7 A. M., which by 7 A. M. of April 25 had moved a little further to the northeast, giving clear weather in New England. With the exception of one isolated report from Lowell, Mass., of thunder at 9.30 A. M., the other records agree fairly well in indicating a storm of some extent and moderate intensity, which moved from western Connecticut into eastern Massachusetts during the afternoon of April 25. The first report, from Norfolk, Conn., records the rain as beginning at 2.45 and ending at 3.15 P. M., the wind being west to southwest. The storm moved east, giving thunder and rain at Hartford and Middletown at 3.30. It then seems to have divided, part going southeast and reaching Westerly, R. I., at 4.51. Thunder was first heard there at 4.40 in the northwest, and the direction of movement of the storm was noted as northwest to southeast. The wind changed from northeast at 4.51 to southeast at 5.15. The Stamford *Advocate* speaks of the storm as being "unusually violent for so early in the season," and notes the considerable damage done by the accompanying wind-squall in breaking off heavy timbers "like pipe stems." The main body of the storm continued to the northeast. Pawtucket, R. I., had rain at 4 P. M. with thunder and lightning, and Olneyville, R. I., reports thunder in the southeast at 4.55, this being the time of the storm noted at Westerly. Worcester, Mass., reports a thunderstorm in the afternoon but gives no time. Norton, Mass., had rain from 4 to 6 P. M. and distant thunder was heard in the west, east and southeast from 4.15 to 5.45. Blue Hill reports rain from 4.22 to 5 P. M., and faint thunder from 4.20 to 4.30. Rate of advance about 50 miles an hour.

Buckland, Conn., sends a report of rain and thunder between 3 and 5 P. M. of April 27, the cyclonic area being then northwest of Lake Superior.

May. On May 4 Parker's Ridge, N. B., reports thunder at 2 P. M. and Newburyport, Mass., rain from 3.30 to 4.30 P. M., accompanied by thunder and lightning, the temperature falling from 70° at 3 P. M., to 62° at 5 P. M. This storm is reported as moving from west to north-northeast. The cyclonic area at this time was north of Lake Huron. May 5 had a cyclonic area central north of New Hampshire, which gave New England general cloudiness and rain, with southerly winds. Two storms were developed on this day as shown by the records. One is first noted at Fitchburg, Mass., as coming from the southeast; the thunder lasting from 2.27 to 2.55 P. M. Princeton had rain at 3.35 and heard heavy thunder in the north and northeast. The storm moved northeast, passing Groton, giving thunder and lightning at Nashua, N. H., from 2.45 to 3.15 P. M., reaching Lowell, Mass., about 3 ("Rain began 3.03. Ended 3.13. Thunder 2.59 to 3.14. Movement southwest to northeast"), and going off to sea about 4 o'clock. Newburyport reports rain from 3.25 to 3.55, thunder from 3.30 to 3.35, and a heavy squall from west and northwest at 3.32. Ipswich reports heavy clouds in the northeast about 3 P. M. distant thunder at 3.26, rain from 3.39 to 3.46.

The first definite report of the second storm on May 5 comes from Buckland, Conn., of rain at 3.50 P. M., thunder first heard in the west at 3.45, and last heard in the southeast at 4.50. Hartford and Canton, further west, report a thunderstorm, but give no time. This storm moved to the northeast across Rhode Island and Massachusetts. Lonsdale, R. I., notes the storm at 5 P. M., Pawtucket from 5 to 5.15; Olneyville reports thunder at 4 in the southwest and had rain at 4.50. The shower passed very rapidly, moving northeast. Taunton, Mass., had rain from 5 to 5.30; Brockton, 5.18 to 7.30; Lake Cochituate, 4.45 to 8; Hingham, rain from 5.05 to 6.15, and thunder at 5.45. The edge of the thunder-clouds was over the observer at Hingham at 4.50, and the temperature fell from 72° at 4.40 to 63° at 5.30. Mr. Clayton reports: "Thunder-clouds began to appear in the north and west about 4 P. M., and rain began at 4.45 and ended at 8.40. Thunder loudest at 5 P. M., and ended at 6.20 P. M. Rainfall .42 inch. Temperature fell suddenly 10°. Relative humidity rose suddenly 30 per cent., and wind shifted from southwest to northwest at 5 P. M." Milton, Mass., had the storm from 4 to 10 P. M., Brighton, "a moderate thunderstorm moving from the southwest to southeast from 4.30 to 5.30; light rain; wind west, moderate; cirro-cumulus clouds moving from the west, but no distinct cirrus overflow." Provincetown reports several peals of thunder from 5.30 to 6.30. This storm had a velocity of about 45 miles an hour. It was followed by a general rain during the evening.

On May 8, with a cyclonic area off the coast south of Connecticut at 11 P. M., Provincetown, Mass., reports distant thunder and lighting; Manchester, Mass., thunder and lightning from 11 P. M. to midnight; Newburyport, thundershowers, and Nashua, N. H., three flashes of lightning in the east at 11.45 P. M. On May 11 Norton, Mass., reports thunder at 4.20 A. M., during a general rain, the cyclonic area being then off Delaware Bay. Mayfield, Me., sends a single report of a thundershower at 6 P. M.

On May 19, at 3 P. M. a cyclonic area was south of Hudson Bay. Brattleboro, Vt., notes that a thunderstorm passed north at 1 P. M., and Charlotte, Vt., reports thunder in the southwest at 1.35 P. M., the storm moving from southwest to south. Perry Village, Me., notes thunder in the north at 4.30 P. M.

On May 20 there was a moderate cyclonic depression north of the Gulf of St. Lawrence, and a well-reported storm occurred on this day. Rain began in northwestern Vermont at 8 A. M., and the storm had an apparent motion to the southeast, crossing New Hampshire, Maine, Massachusetts, the northern part of Connecticut, and Rhode Island. On the northeast the rain area extended as far as St. John, N. B.; on the southwest to New York City. The rainfall was moderate in most places, reaching a maximum of .57 inch in extreme northwestern Massachusetts. In southern New Hampshire and northern Massachusetts no rain fell, but further south rain began again and continued till the storm was dissipated in northern Connecticut and Rhode Island, the last report coming from Providence, R. I. where the rain ceased at 7.30 P. M. The velocity of the storm was about 20 miles an hour. From the reports received the following are quoted here as being particularly interesting: Blue Hill: "Thunder first heard, 5.20 P. M.; last, 6.30 P. M. Rain began, 6.13; ended, 7.05; total, .04 inch. Between 5.10 and 6.30 temperature fell from 71° to 58°, then remained nearly stationary. Wind veered to northwest during storm, velocity 30 miles." Randolph, Mass.: "As the cloud advanced there was a division of light to the northwest, revealing two separate showers, one seeming to follow the coast, the other passed over to the south. Rain appeared to fall copiously at Brockton, but Randolph seemed to be in the middle ground with only .01 inch." Malden, Mass.: "A peculiarity noticed in Malden is that some thundershowers from the west rise very threateningly, but before reaching their height seem to divide, passing north and south, possibly attributable to local attraction of Spot Pond and Lake Waldron, with similar bodies of water north of us, and of Charles River and harbor and coast line on south."

May 21 had a cyclonic area over the Lakes, and brings one report, from Brattleboro, Vt., of lightning in the south during the evening.

On May 22 there was a moderate cyclonic area north of the St. Lawrence

River, and one of greater intensity south of Newfoundland. Two, and perhaps three, storms are reported for this day. The first started in northwestern Vermont between 6 and 7 A. M. Burlington reports rain at 6.45; thunder at 7.30; direction of movement, west to east; Charlotte, rain, 7.35; thunder, 7.30; movement, west to east. Although these two stations report a definite movement to the east there are no further corresponding records except one from Manchester, N. H., which reports the passage of a thunderstorm in the north, with thunder and lightning at 10 A. M. Isolated reports come from Post Mills, Vt., of lightning from 10 to 12 P. M. (possibly A. M.) in the southeast, and from Mt. Washington, of a thunderstorm (no time given).

A second storm is reported on May 22, from Albany, N. Y., at 4.45 P. M., with light rain and some lightning and thunder. Lebanon Springs, N. Y., heard thunder in the south at 3.54 P. M., and from 5 to 5.30 P. M. almost incessant thunder in the north and northeast; "5.33, cool gust of wind from northwest; 5.37, a few large hailstones." What seems like a continuation of this second storm is noted at Deerfield, Mass. ("lightning in south 8 to 9 P. M."), and is generally reported from 9 to 12 P. M. in eastern Massachusetts. Rhode Island and Connecticut also send a few reports. It extended from Setauket, N. Y., on the south ("lightning in the west and north at 8.30 P. M.") to Newburyport, Mass., on the north, which also reports lightning in the southwest and south from 9 to 11 P. M. Some rain fell at Voluntown, Conn., Olneyville and Providence, R. I., and Brockton and Provincetown, Mass. Pawtucket had hail "as large as beans."

On May 23, Bar Harbor, Me., reports a thunderstorm passing to the southwest in the afternoon, and Nashua, N. H., reports lightning from 9 to 11 P. M. There was no well-defined cyclonic area in the neighborhood at this time, the position of the nearest one being south of Hudson Bay.

On May 24, under similar conditions, Parker's Ridge, N. B., reports a heavy thunderstorm towards midnight.

On May 28, with a low barometer over New England, Parker's Ridge reports thunder and lightning at night.

On May 30, at 7 A. M., there was a cyclonic area in the lower St. Lawrence Valley, which moved off to sea during the day, the weather being cloudy or rainy in New England. During the afternoon there was a succession of showers over the whole district, but the records are so confused that it is impossible to separate the different storms. In northern New Hampshire and Maine there seem to have been two or three distinct storms between 2 and 9 P. M., and in Massachusetts two, one of which extended into Connecticut. There are also scattered reports from Vermont.

and southern New Hampshire. Berlin Mills, N. H., had two storms, the first at 2 P. M., and the second at 5.21. Of the second it is said: "This is a portion of the other one; it began to gather in the northwest and circled around to the northeast." Manchester, Mass., notes a curious shift of wind about twenty minutes before the rain began, from northwest to southeast, east, northeast and then to north. Dedham, Mass., reports: "Small cumulus rising northwest between 4 and 5 P. M., passing north, settling into anvil-headed shapes, dark threatening nimbus in northwest; bulk passing north by horizon; western portion breaking into scud and flying southeast across track of wind. Storm-clouds gathered three times and parted in this way, with a few drops of rain." Hingham, Mass., had a storm at 8.45, noting: "This storm passed, as a great many do, down the north shore of Massachusetts and the light edge just reaches over us at Hingham." Lynn, Mass.: "Shower consisted of two sections. The first passed considerably to east of this place, the end passing about 6.15 P. M. The second section, which immediately followed, passed more nearly overhead, but still to the east. The clouds were broken and at no time shut in the sky." Newburyport, Mass.: "4.30, distant thunder in the northwest. Cloud (apparently the cirrus overflow) extended from the cumulus in the northwest to point southeast of zenith. Detached cumuli in northeast and east; nearly clear sky in west and southwest. Storm cloud very narrow and central in northwest, where heavy rain is falling. Storm seems to develop and spread out as it approaches. 4.59, sudden squall from west, veering to northwest, brisk. Wind about 14 miles an hour for ten minutes." Cambridge, Mass.: "5.40 P. M., wind south, moderate to brisk. Cumulus clouds, leaden, altitude 12° in north. Cirrus overflow ragged, woolly, to zenith. Plenty of scattered cumulus. 6.00, the overflow from storm was rather coagulated, but gave many signs of spreading out as it advanced in general winds; also seemed to dissolve at edge and grow by more supply from farther back. The growth of the storm in the rear was also finely shown, but this did not build backwards nearly as fast as the storm moved east. 7.15, retreating storm shows rear, both as massive cumulus and as 'bracket' overflow, lit up by setting sun. 7.25, calm; rear of storm in east; cirrus edge ill-defined, 15° altitude. Successive cumuli rising and spreading, showing growth on rear (as well as in front)." Fitchburg, Mass.: "Considerable wind from southwest, accompanied the shower but lasted only about three minutes." Two stations mention the dividing of the storm as it passed. Waterville, Me.: "Shower seemed to divide into two parts, one moving northwest of the storm, the other southeast of it." Riverside, Me.: "Storm clouds divide."

On May 31 there was a high barometer over the Lakes and a moderate trough extending from the middle Atlantic coast westward. A storm of moderate energy appeared in the early morning of this day in eastern Connecticut, and moved in a general east or northeast direction across Connecticut, Rhode Island and Massachusetts. The first report is from Middlebury, Conn., where rain began at 1.40 A.M., accompanied by thunder. Naugatuck, Conn., had rain at 2 A.M. The storm reached Mashapaug, Conn., at 4, and apparently gradually spread out to the north and south, extending to Winthrop, Mass. (3.01 A.M.), on the north and to Setauket, N. Y. (4.52 A.M.), on the south. It moved off to sea after 4 A.M. The average rate of its advance was 50 miles an hour. Although the hour was an early one and the reports are few, they agree very well and there seems to be no doubt that this storm, occurring under what seem to have been very unfavorable conditions, developed considerable energy and travelled at the rate of 50 miles an hour. The rain did not extend into western or northern Massachusetts. Blue Hill reports: "Wind decreased and velocity was small from southwest just before and just after the storm, but blew with a velocity of 25 miles from north between 4.15 and 4.45" (rain began at 4.15). Brockton, Mass., notes that the day following the storm was intensely hot. Nantucket, Mass., notes that the barometer was stationary during the storm.

THUNDERSTORMS OF 1886. JUNE TO SEPTEMBER.

The daily record of weather over New England during June, July, August and September is based on the Washington 7 A.M. maps, as the 7 P.M. maps have not been accessible. The positions of the cyclonic centres have been determined from the chart of the tracks of areas of low pressure in the Monthly Weather Review. The general features of pressure and weather for the months as a whole are taken from the monthly Bulletin of the New England Meteorological Society.

June 1. June had as a whole low temperature, small rainfall, and nearly normal pressure. It opened with anticyclonic conditions over New England.

June 2. A cyclonic area had moved over the Lakes with general rains in New England. Springfield, Mass., reports a thunderstorm passing to the north at 5 P.M.

June 3. The cyclonic area was over the lower St. Lawrence, the weather in New England continuing cloudy and rainy. A few reports of thunder come from southeastern New Hampshire and Maine between 4.30 and 7.45 A.M.; one from Tunbridge, Vt., at 12.17 A.M., and one from Augusta, Me., at 5.40 A.M.

June 4–7. Anticyclonic conditions prevailed until June 7, when an area of low pressure developed over the Lakes and brought light rains.

June 7. Several stations in Vermont and western New York report a thunderstorm during the evening of this day. It is first noted at Peterboro, N. Y.: "Thunder first heard, 7 P.M., southwest wind; last heard, 8 P. M., wind east. Rain 7.40 to 8.05. The storm was severe and some hail fell." The storm moved east into Vermont, reaching Burlington at 9, Cornwall at 10, Brandon at 10.10. The furthest eastern report is from Tunbridge, which had thunder at 10.25, and rain at 10.40, the latter lasting only five minutes. The storm did not extend into New Hampshire. The time occupied in crossing Vermont was about one hour, which gives a velocity of about 50 miles.

June 8. The cyclonic area had moved onto the St. Lawrence Gulf, and an anticyclonic area was central over the Lakes. Brockton, Mass., reports rain from 8.30 to 8.50 A. M.; thunder from 8.15 to 8.25. The weather in New England was generally fair.

June 9. There was a cyclonic area over the Lakes, and another north of the St. Lawrence Gulf; the weather was clear along the coast. Woodbury, Conn., had rain from 5.15 P. M. to 1 A. M. of the 10th; thunder, at 12.45 P. M. Greenport, N. Y. heard thunder at 1.19 P. M., but had no rain till 8 P. M. Auburndale, Mass., had faint, thunder from 3.35 to 3.40 P. M.

June 10. This day brought cloudy and rainy weather to New England, the moderate cyclonic area still hanging over the Gulf of St. Lawrence, but moving off and giving clear weather on June 11. There seem to have been three isolated storms on the afternoon and evening of this day. The first is noted at six stations in southeastern Maine between 1.30 and 1.50 P. M. It was moderate and local, being confined to Windsor, Whitefield, Scarboro, Wiscasset, Alna and Gardiner. The second is well reported in western Connecticut, extending from the western side of the state nearly to the Connecticut River. Its general motion was to the southeast, and it lasted from about 5 to 9 P. M., reaching Stamford at 8.15, Setauket, N. Y., at 8.10, and Smithtown, N. Y., at 8.55. In common with many of our storms the lines marking the advance of the rain-front show a lagging in the south. The storm was over in the north (at Collinsville, Conn.) at 7, while it lasted in the south (at Smithtown, N. Y.) till 10.30 P. M. The rainfall was light. Smithtown reports: "Storm came up against a light south wind which gradually died out and wind veered around to northwest, but not very strong." Southport, Conn.: "7.05, wind south, light; 7.18, northwest, brisk; 7.20, north, strong; 7.22, rain began." Bethlehem, Conn.: "5.30, clouds dividing in west, part going northeast, others to southeast. Setauket, N. Y.: "The storm came from northwest. At 7 P. M. the edge of the advancing cloud was very jagged and sharply defined, the clouds then covering the northwestern sky up about 40°, and seemed to be moving from east to northeast. At 7.54 P. M. the wind blew up from west-northwest but only blew for a short time." The third storm of June 10 occurred in eastern Massachusetts between 7 and 9 P. M. The furthest report to the west is from Auburndale, which had lightning at 8.15, but no rain. Blue Hill had rain from 7.35 to 8.20, and reports: "The storm seemed to develop into a thunderstorm after it passed us," and notes that, contrary to the usual rule, "*there was a distinct indraught toward the storm as it approached.* The shower clouds appeared in the west between 6 and 7 P. M., and their front edge reached the zenith at 7 P. M. This did not appear to be a well-developed thundershower, since streaks of light broke through the clouds as they approached and the cirrus fringe was absent, though the top was spread out." The Blue Hill thermograph curve for this day shows a very distinct fall of temperature during the rain, followed by a rise. The barograph curve shows a slight fall just before 8. P. M., and then a rise. The self-recording hygrometer shows a change in humidity from over 70 per cent. at 8 o'clock to 60 per cent. at 8.30. Lightning was seen as far south as Olneyville, R. I., but no rain fell outside of the district near Boston. At Hingham the wind changed from southwest to a cool northwest breeze seven minutes before the rain began. At Cambridge "the ill-defined rear edge of cirrus that seemed to overlie the rear ragged cumulus of this shower crossed zenith about 7.30 to 7.33, and stretched about northeast to southwest; no structure noticeable. Many detached cumulus following slowly, some small, some large, looking showery; some cirro-cumulus."

June 11–12. The weather was clear and cool over New England, an anticyclone being central over the Lakes, and a moderate cyclonic area off the middle Atlantic coast. Gardiner, Me., reports thunder 5 to 6 P. M. on June 11, with no lightning or rain. Newport, R. I., saw thunder-clouds in north, west, and east, but had no thunder or lightning.

From June 13 to June 18 partly cloudy skies, with occasional showers prevailed, the pressure being below the normal west of New England, and developing into a cyclonic storm north of the Lakes on June 16, which gradually moved off to the northwest.

June 13. Warren, Conn., reports thunder to the south at 11.30 P. M., but no rain.

June 14. There was high barometer over New England, with cool east winds and some rain. A storm of some intensity crossed western and central Connecticut and Long Island in the early morning of this day. It is reported at Hudson, N. Y., at 1.50 A. M., at Pines Plains, N. Y. (near the northwestern border of Connecticut), between 12 and 1 A. M. It then moved southeast into Connecticut and is fairly well reported in that state. The storm extended across the Connecticut River a short distance, but did not reach Rhode Island. There is but one report in southern Connecticut, from Stamford, which had rain at 3.05 A. M., but several from Long Island, which agree in giving the time of the storm's ending as soon after 5 A. M. The velocity was therefore about 38 miles an hour. The direction of movement is very variously reported, partly, no doubt, owing to the unseasonable hour at which it occurred, but it seems to have been from northwest to southeast. The rainfall was heavy, and at many stations continued for some hours after the thunder had ceased. Hartford and Canton, Conn., report a thunderstorm in the afternoon, and Hartford another in the evening.

June 15. Easterly winds from an anticyclone off the coast gave rainy weather in New England. Chatham, Mass., reports thunder at 5 A.M. and rain from 6 to 7.30 A.M.

June 16. A moderate cyclonic area had developed north of the Lakes, with light rains and southerly winds over New England. Holderness, N. H., reports thunder at 5.34 P.M., no lightning and very light rain.

June 17. At 3 P.M. the cyclonic area of the previous day had moved over the lower St. Lawrence Valley, and the 7 A. M. map of this day shows cloudy and rainy weather over the district. Three stations on Long Island report a thunderstorm moving south and southeast between 2 and 5 P.M., with very little lightning. This storm, as outside reports show, was felt in New York City. Other isolated reports come from three stations in Vermont.

June 18–20. Fair, cool weather prevailed, which was broken on June 22 by a second period of damp cloudy weather, with frequent showers, which remained until June 26.

June 21. One report of thunder from Norfolk, Conn., at 1.30 A.M.

June 22. The weather became cloudy and rainy, there being a cyclonic area on that day in Virginia, which had moved northeast from the Gulf during June 21. Saccarappa, Me., reports thunder and lightning from 2.15 to 3.15 P.M., rain 2.41 to 3.25 P.M., and notes the change of wind from strong northwest before the rain began to light south-southwest after it had ceased.

June 23. The storm from the Gulf was central at Washington, and on June 24 had lost its identity in the Middle States, a large ill-defined area, with pressure a little below the normal, remaining in the Central States for several days.

June 24. North Leverett, Mass., reports thunder at 7.30 P. M; rain from 7.45 to 8.30. Pawtucket, R. I., had thunder shortly before midnight, with a slight rainfall.

June 25. The cyclonic centre had finally formed definitely in the Lake region, then moved to the northeast, being central over the lower St. Lawrence in the evening. The weather was cool, with east winds and rain. A well marked storm (Plate IX, Fig. 11) of some violence crossed New England between 6 and 12 P. M., and there are numerous reports of other storms more or less isolated. Before it entered our territory the main storm was reported at Peterboro, N. Y., at 3.50 (thunder) and 4.11 P. M. (rain). Albany, N. Y., had its rain at 5.50, and thunder 5.35 to 6.10. Utica, N. Y., reports: "Rain began 6.03, ended 6.43; thunder first heard, 5.50." Pines Plains, N. Y., close to the northeastern border of Connecticut, had rain at 6.30. The storm entered Vermont and Massachusetts practically simultaneously about 6 P. M., its front extending from the northern part of Vermont to the northern part of Connecticut. It advanced to the southeast across New Hampshire, Massachusetts, Connecticut and Rhode Island, but did not extend into Maine, southern New Hampshire or southeastern Massachusetts. The time occupied in traversing New England was about six hours, giving a velocity of about 25 miles an hour. The lines marking the advance of the rain front show a concave front, an unusual occurrence in our thunderstorms. Springfield, Vt.: "The weather has been rainy and misty for forty hours past, and at 3 P. M. it commenced clearing. This storm appeared to be formed of the fogs and misty clouds." Factory Point: "The storm when it first appeared . . . had indications of being very heavy here, but it seemed to divide, and the heaviest seemed to go north and south of us." West Pawlet, Vt.: "5.07, temperature 80°; rain began at 5.48; 7.30, temperature 58°." Bellows Falls, Vt.: "This shower followed a rainy day. Clouds broke at about 4 P. M. The shower formed behind the low storm-clouds and was on us before any observation was made." Blue Hill: "Temperature almost stationary at 60°, and humidity almost stationary at 100 per cent." North Leverett, Mass.: "Cloud came up in southwest, and followed the Connecticut River north, passing west of us." Leyden, Mass.: "The storm divided in the west, part going north and part south, so that it was heavier either north or south." Providence, R. I.: "The storm had the following peculiarities: thunder at very frequent intervals was noted 5 to 6

P. M; cumuli and stratus in western hemisphere and gradually overspreading sky from southwest; an ill-defined cloud, whose front and rear edges passed the zenith at 5.20 and 6.22 P. M., respectively, seemed to hide the clouds proper, for after the rear had passed the heavy cloud was noted and heavy rain with breeze from southwest came at 6.24. Lightning and thunder were very frequent and severe." Enfield, Conn.: "The storms in this section generally act as if in some way controlled by the falls on the river, called Enfield Falls. As in this shower, it started northwest, passed south along the shore to the lower falls, and then crossed over the river." West Woodstock, Conn.: "The main cloud . . . probably divided, going around to the north and south." A few scattering reports from Cape Cod seem to show a very light local storm in that region between 1.30 and 2 P. M.

June 26. The weather was cloudy and rainy and there seem to have been particularly favorable conditions for thunderstorms. The cyclonic area was central over the lower St. Lawrence at 3 P. M. There are a great number of reports for this day and several (probably seven) distinct storms occurred (Plate IX, Fig. 12), though it is somewhat difficult to separate them. A fairly well-defined storm occurred in central and southern Maine between 11 A. M. and 3 P. M. It is not reported in New Hampshire, but began at a number of stations in western Maine soon after 11 A. M., and moved east, going off to sea after 3 P. M. Thunder was heard as far south as Kennebunk, but no rain is reported south of Limington. In the north the rain area reached as far as Belgrade, while an isolated report from Solon, further north, notes rain beginning at 1.35. Extracts worth noting are as follows: Winthrop: "The shower divided and appeared quite heavy north and south." Deering: "10 A. M., cumulus rising in the west, clear; 12.15 P. M., broken masses of cumulus in west and southwest and heavy clouds in northwest, front margin cirro-stratus; fibres all running inward to the cloud; 1, cirro-stratus in northwest about 30° above the horizon; 1.35, rainy in south, clear overhead; large cumulus north, top about 50° ahead of cirro-stratus; 1.39, ragged gray clouds passing overhead; fibres run out from storm cloud; 2.45, heavy cumulus north and south; clearing in west." Sabatis: "12.28, temperature 80°; rain, 1.22 to 2.10; 2 P. M., temperature 70°. North Leeds: "12.15, wind west, light; 12.45, wind west, brisk, cool breeze; 12.56, rain began." Windsor: "2.50, distinct cool breeze; 3.10, wind southwest, high; 3.10, rain began." Limington: "Temperature rose after the rain from 72° to 79°." Belgrade: "Sometimes a heavy storm will seem to be approaching from the west, but before it reaches this place it will divide, part going south and part north, the southern part following Belgrade Stream and the northern part crossing the ponds in the northern part of the town." The storm as a whole was quite moderate, and the temperature very generally fell 5°–10° after the rain.

Between 5.30 and 8.30 P. M. a second small storm moved southeast across about the same district in Maine, though this second one was of smaller area. It is first noted at Andover and last at Alna. The reports are few and the storm was a moderate one. Waterford notes: "This storm appeared to divide, the heaviest part passing southwest of the place of observation, the other part passing overhead and gathering force as it passed to the southeast and east." East Bethel: "5.36, calm; 5.40, gusty; 5.43, brisk west wind till 5.54; 5.54, rain began; 6.00, light west winds." Alna: "Distinct cool breeze at 8 P. M; rain began at 8.30." Sabatis: "6.55, wind west; brisk. Black conical clouds showing against light ones in southeast; 7 P. M., wind rising rapidly, driving clouds in all directions; 7.10, rain began; 7.25, breaking in west."

A group of stations in central Massachusetts report a storm between noon and 1 P. M. It extended over an area not exceeding a few square miles in extent, but had a distinct movement to the east. There was little thunder and rain. Kingston reports: "Two heavy clouds approached from north and south and met directly overhead with heavy thunderstorm. Bond's Village: "A series of showers, some passing to north and others to south." Dwight: "Shower partially breaks in two parts, the heaviest portion passing to southwest and northeast." Another report from Dwight makes the significant note: "Many showers probable today, as cirrus over cumulus is seen in several directions. 1.21 P. M., there are now several kinds of clouds. I. Small low cumulus, grayish purple, northwest or west-northwest to southeast, moderately fast movement. II. More and higher cirro-cumulus, slower motion. III. Rain clouds, *e.g.*, now (1.26) raining in southwest and south; no thunder heard, but light rain just beginning. IV. Cirrus covers."

A number of stations in the neighborhood of Plymouth, Mass., report an eastward moving storm about 1 P. M., which was also felt at Provincetown. On Cape Ann a thunderstorm is noted from 12.30 to 1 P. M. Fall River, Mass., says: "Clouds rising in northwest and southwest, those from southwest going to the east, those from northwest same, but centre of the city escaping the storm entirely." West Worthington, Mass.: "Storm divided." Lewiston, Me.: "It has always been a noticeable fact that many storms rise in the west and have every appearance of passing overhead, but for some cause or other are turned out of their course, following the line of the railroad north, or the Androscoggin River south." Provincetown, Mass.: "I have added a column to the blank under the title of Ocean Tide, and I am convinced that the tide has a great influence." Edgartown, Mass.: "Storm and rain clouds going down to northeast and east, carried down by tide; did not pass overhead. A hard rain with thunder carried off from Cottage City by the tide." Essex, Mass.: "A strong gust of wind at beginning of rain."

Vermont and New Hampshire were nearly free from thunder and experienced no distinct storms, the reports being few and scattered. In eastern Connecticut there was one storm which moved southeast between 3 and 4 P. M., but it is only reported at one station in Rhode Island, in the extreme southwestern part. A second slight storm occurred over the southeastern part of Connecticut between 4 and 5 P. M., also moving southeast, and there are numerous other scattered reports of rain and thunder. In Rhode Island a storm is reported about noon, which moved east across southeastern Massachusetts and the islands to the south. Newport, R. I., notes temperature as follows: "12 M., 70°; 12.30, 69°. Rain began 12.50; 1 P. M., 68°; 2 P. M., 72°." Report from Yacht *Consuelo*, in Narragansett Bay, four miles east of Wickford: "About six sharp thunder-squalls of very small area passed across Narragansett Bay between 12 M. and 2 P. M. Cirro-stratus clouds were not at all prominent. Cirrus clouds were noticed nearly all day. Storm cumulus very active between 12 and 2; 6.30 P. M., appeared very threatening in west-northwest. Cirro-stratus underlaid by cumulus; 7, nearly all dispersed, as is usual when tide is ebb. Squalls from west-northwest or north very rarely cross Narragansett Bay while tide is ebb." From the Connecticut reports the following are extracted. Chestnut Hill: "3.40, distinct cool breeze; rain began." Turnerville: "Shower divided, part went southwest and another to southeast via northeast." Westchester: "4 P. M., northwest, light; temperature, 80°; 4.30, calm; temperature, 82°; rain began 4.35; 5.00, wind northwest, light; temperature, 78°. Contrary to the usual rule, in this case the rain was preceded by a calm and a rise of temperature." On this day there can be separated seven distinct storms, all having a marked advance, but being of small extent and slight intensity.

June 27–30. The last four days of the month were generally fair and cool. On June 27 a cyclonic area was north of Nova Scotia, the weather at 7 A. M. being cloudy over New England, with westerly winds. Two reports note thunder about noon. Amherst, Mass.: "Rain 12.10 to 12.40 P. M.; thunder, 12.18." Vineyard Haven, Mass.: "A few drops of rain and two reports of thunder." On June 28 the pressure was normal all over the section. On June 29 at 3 P. M., the cyclonic area was over the lower St. Lawrence. Wallingford, Conn., reports thunder at 3.30 P. M., but no rain.

July. The month of July was cool as a whole, with an abundance of fair mid-summer weather. The first thirteen or fourteen days were dry and warm, but were followed by a succession of cool days, with copious showers and several severe thunderstorms.

July 1–6. The pressure was nearly stationary and above the average. On July 3 four stations in Maine report thunder in the afternoon, in two cases without rain. On July 4 there are also a few reports from Maine in the afternoon, in most cases of thunder only. July 5 brings reports from a group of stations in southern New Hampshire and northern Massachusetts of thunder and some rain a little after 1 P. M. In western Connecticut, also, three stations near together report thunder, and one of them rain, between 1 and 2 P. M.

July 6. A cyclonic depression developed over the lower St. Lawrence, and on July 7 was central at Father Point.

July 7. A storm developed in western Connecticut at 6.30 P. M., and moved to the southeast across the State, but did not extend into Rhode Island, nor on the south as far as the Sound. On the north the only report from Massachusetts is from Springfield, where no rain fell, but thunder was heard, and two stations in the eastern part of Connecticut also report thunder and no rain. The rate of movement was about 45 miles an hour, and the storm was a moderate one. Durham, Conn., notes change in temperature from 84° at 7.30 P. M. to 68° at 8.30 P. M., Meriden, from 90° at 7.30, to 84° at 8.05 after the rain; Washington Depot, from 86° at 6.36 to 75° at 7.36, the rain ending at 7.36. Other reports mention the intense heat during the day, and the cooling after the storm in the evening. Isolated reports come from Lynden, Me., Wellfleet, Mass., Newport, Vt., and Nantucket, Mass.

July 8. The cyclonic centre was over the Gulf of St. Lawrence, the weather being clear and warm, with northerly winds. About 1 A. M. several stations in Rhode Island and two in Massachusetts heard thunder; Provincetown, Mass., saw lightning; Kent, in the western part of Connecticut, had a little rain and thunder at 7 A. M.

July 9. The weather was anticyclonic, cool and fair. Two reports from New York report light rain and thunder in the evening.

July 10. There were two moderate cyclonic areas, one over Lake Ontario, the other central at Washington; the weather over New England was cloudy and cool. Between 3 and 4 A. M. thunder and rain are reported in northwestern Vermont from two stations, and three stations near the same district note thunder and rain about 11 P. M. Winchester, Mass., notes thunder and rain, and Winthrop, Mass., thunder only, in the evening. From July 10 to 24 the pressure was below the normal and the weather generally cool. The last half of the month was very rainy, and marked by numerous severe thunderstorms.

July 11. A few reports come from northern New England in the early morning. The cyclonic area was over the lower St. Lawrence.

July 12–13. These days were free from thunder and rain, the cyclonic depression gradually moving away to the northeast.

July 14. Another cyclonic area moved slowly from the Lakes south to western Pennsylvania and Virginia and then north and down the St. Lawrence Valley on July 14–16, accompanied by heavy general rains. On July 14 there are a few scattered reports of thunder and rain in the early morning, and a well-reported storm during the evening, which occurred in an unusual position, northeast of the cyclonic centre, which was at that time in southwestern Pennsylvania. This storm (Plate IX, Fig. 13) went across the State of Connecticut, reaching southern Massachusetts (a few reports near the Connecticut line) on the north, and Long Island on the south. It began about 6 P. M. and was dissipated just before reaching Rhode Island, at about 10.30 P. M. Arcadia, in western Rhode Island, reports no rain, but thunder about midnight. The rate of movement was about 20 miles an hour. The lines marking the half-hourly position of the rain front show a more rapid advance in the south with a lagging in the north, this being contrary to the usual rule, and the general direction of advance was to the east. Three stations, however, note the movement as being from east to west. The storm was followed by heavy rains which continued through the next day and longer in many sections. The report from Stamford states the conditions clearly: "Cloudy all day; appearance of a northeast storm. Rain began very moderately, with little appearance of shower, but soon rained fast and then heavily, a succession of such showers continuing till daylight. Sky continued cloudy, with southerly winds, veering slowly to northwest."

July 15. The cyclonic centre was in western Virginia, the weather over New England continuing rainy, with easterly winds. On this day, under conditions similar to those of July 14, a storm was developed northeast of the cyclonic centre, in a general northeast rain storm. It seems to have begun in western Connecticut at about 2 A. M., the unfortunate hour having prevented accurate records from being made, and to have reached well down to the southern part of that State. It moved east and northeast, the width of its path increasing as it advanced. It is poorly reported in eastern Connecticut and seems to have touched only the northeastern corner of Rhode Island, but in Massachusetts it is very well reported in the east between 5 and 8 A. M. It did not reach Vermont, but did extend into southeastern New Hampshire and southeastern Maine on the north and southeastern Massachusetts on the south. The lines of rain front are rather irregular, but they also show a slight advance in the south over the north. In New Hampshire and Maine they are confused by a second small storm there from 8 to 9 A. M. The rain storm moved off to sea shortly after 7.30, having travelled about 150 miles in five and one-half hours, which gives a velocity of about 27 miles an hour. Five stations make the movement of the storm from east to west. The day was generally cloudy and foggy or rainy, and the temperature stationary, the storm not being followed by the usual fall in temperature. The wind was usually light during the day and varied little in direction. At Blue Hill the relative humidity was nearly 100 all day; between 2 and 5 P. M., however, it dropped to between 70 and 80. Some lightning was noted. The rain was intermittent during the day, shower following shower.

July 16. The cyclonic area had moved from Virginia northeast to the St. Lawrence, giving southerly winds and rain over New England. Between 5 and 11 A. M. there are numerous reports from eastern Massachusetts and New Hampshire and one or two from western Connecticut and Rhode Island. It is not possible, however, to trace any distinct storm or storms, though there seems to have been one which moved from New York across Connecticut and Long Island between 2 and 6 A. M; this is, however, largely inference from six reports. Blue Hill reports: "There was a rapid succession of showers between 8 A. M. and noon."

In the afternoon, between 4.30 and 7 P. M., there was a storm in Vermont, interesting because it is well reported throughout that State but did not extend into New Hampshire or Massachusetts. The storm was moderate and was followed by clearing weather. Velocity about 20 miles an hour. During the same hours a storm began east of the Connecticut River in Connecticut, and moved northeast across Massachusetts, not touching the southeastern part of that State or Rhode Island at all, and being reported at the coast only at Hampton Falls, N. H. A remarkable feature of this storm is the fact that it was reported at a number of stations east of the Connecticut River almost simultaneously, the stations being in a north-south line and extending for fifty miles across the whole State just east of the river. The rain began, therefore, all at once along this line, a feature not noticed in any of the other storms hitherto charted for New England. This would seem to indicate a control by the river valley over the formation of the thunderstorm. Holbrook, L. I., reports rain at 3.10 P. M., which probably belongs to this storm. West Upton, Mass., reports: "It is my opinion that this rain had no real connection with the thunderstorm as, from the density of the clouds, I should judge the thunderstorm only rose half way to the zenith." Haddam, Conn.: "The storm which had lasted for two days previously cleared up at the end of this storm." The general features of the storm were no decided change in temperature, moderate intensity, and a general clearing after its occurrence.

From July 16 to 21 the pressure was below the normal with no well-defined centre until July 21, when there was a cyclonic area central over Lake Huron, which moved down the St. Lawrence during this and the following day.

July 17. New England had light southerly winds and light local rains. The reports are few and scattered; some from Vermont of thunder and rain in the early afternoon. The Isles of Shoals had a distinct storm with the characteristic features, and the observer notes a sudden shift of wind from northwest to east during the rain.

July 18. One of the most well-marked and most fully reported storms of the summer occurred on this day, when there was no well-defined cyclonic centre near New England, the pressure being slightly below the normal, the weather fair, winds variable and temperature high. This storm (Plate IX, Fig. 14) entered Vermont, Massachusetts and Connecticut from the west between 11 A. M. and noon, reaching West Stockbridge, Mass., at 11; Sharon, Conn., at 11.30; Salisbury, Conn., at 11.35; West Pawlet, Vt., at 11.45; Pittsford, Vt., at 12.02; Dalton, Mass., at 12.15 P. M. The average direction of the storm as noted in the records was from southwest to northeast. Its progress across country can be well seen by the sequence of the lines marking the beginning of the rain, which show the usual convexity noted in such storms. The average hourly advance of the storm was about 14 miles, though at times it reached 25 miles. The irregularities in the lines marking beginning of rain and loudest thunder are due to the uneven action of the storm, which in some places was distinguished by greater violence and in others showed little rainfall and scarcely any thunder. Except in southeastern New Hampshire, the stations in Vermont, New Hampshire and Maine are too few to allow of much certainty in mapping; still so far as can be seen it is evident that the storm extended well up to the north. Connecticut in the west was also included in the storm area. In the eastern and southeastern parts of Connecticut there was apparently another storm running from a little east of the centre of the State and extending to the southeast till it reached Liberty, R. I., at 9.30 P. M. This is probably a part of the main storm which lived longer and advanced further here. In many of the Connecticut records notes are made of several distinct storms during the day. The main storm was generally moderate, and the rainfall light, and there is little mention of lightning. The lines marking the loudest thunder come quite regularly at intervals of a few minutes behind those of rain beginning. There seem to have been no remarkable developments. By the time the storm reached eastern Massachusetts it was much weakened, and except in the extreme northeast the stations here report "no rain." It left Massachusetts and New Hampshire shortly after 6 P. M., and Maine somewhat later, the Kennebunk record of rain being 6.50. A good many of the observers note the occurrence of the squall-wind, which comes about the time of the beginning of the rain. One refers to it as coming "with a rush and a roar." The records at Rowe, West Chesterfield, North Leverett, Philippston, Ashby and North Billerica, all in Massachusetts, mention a dividing of the storm in their vicinity, part going to the north and part to the south. Four of these stations, viz., West Chesterfield, North Leverett, Philippston and Ashby, are in the line of the storm's progression, and this seems to show some regularity in the continuance of this break across country. The point is an interesting one, but sufficient data are not yet at hand to allow any conclusion to be reached with regard to it. The heaviest part of the storm was in western Connecticut, where Kent, Warren, Goshen, Tariffville and Collinsville, which are all in the line of the storm's progression, report very heavy rain, several strokes of lightning and also hail, the latter at Collinsville of the size of "peas to walnuts." Haddam, to the southeast, reports very heavy rain, thunder and lightning, and also notes a division of the storm at that place. It will be noticed that the two regions of irregularity, that in Massachusetts where the break is noted, and this one in Connecticut where the storm was most violent, correspond in their direction of movement across country, which is the same as that of the main storm. The extent of the area in Massachusetts was about fifty miles, in Connecticut about thirty miles.

July 19. The reports show that two storms occurred, the conditions of weather being similar to those on the preceding day, the gradients weak and the winds light. The first storm began in western Connecticut about 1 A. M., and moved east across Connecticut and Rhode Island, going off to sea to the southeast after 4 A. M. It reached as far north as Readville, Mass., where rain fell but no thunder is reported, and is well recorded in southeastern Massachusetts, considering the time at which it occurred. The last report is from Edgartown, reached at 4.27 A. M., which gives a velocity of over 40 miles an hour. Blue Hill notes: "It is not known whether thunder occurred with the rain this morning or not, but there was every evidence of a thunderstorm. Rain began 3.20 A. M. The wind suddenly shifted from west to south at 3.20, then after about ten minutes went back to west again."

At 3 P. M. on the same day a cyclonic centre was over the Gulf of St. Lawrence, having moved down from the north. The conditions were favorable for the development of thunderstorms, as there were two or three in Vermont, New Hampshire and Maine between noon and 4 P. M., and one in southeastern Massachusetts about noon, besides numerous other scattered reports. The greatest number of reports comes from southern Maine, where, between 12 M. and 4 P. M., there was in many places a severe storm, which is noted as the first violent storm of the season. It is impossible, however, to make any definite statements as to rate of movement or extent. Extracts from the reports and newspapers mention very heavy hail; in many places it is said to have lain a foot deep, some of the stones being as large as robins' eggs. At one place a lady gathered a quantity of hail and by means of it "made several quarts of very nice ice cream, and kindly distributed it among her neighbors." At Bridgton, Me., "hail was violent and lasted about fifteen minutes. Some of the largest (stones) were one and one fourth inches in diameter, and about half an inch thick. The most violent hail storm I ever experienced," the observer says. East Sumner: "1.23, distinct cool breeze; 1.46, sudden burst of rain." Kennebunk: "Observed this storm closely, but saw no lightning. It came up . . . from the west but principally southwest, and looked as if it would visit this locality in force, but edged off, with a fairly lively little rain from 12.15 to 12.30, to the east, filling the sky in that quarter around to the place it started from, and then disappeared. Broken clouds were drifting over the whole sky, but the real storm was as noted above." Mayfield: "2.30, dark cloud and low distant thunder in west; 3.00, strong gust from west with light rain; clouds broken and flying northeast." North Pownal, Vt., notes the temperature after the storm as "cool and chilly." At Wayne the storm is mentioned as the most terrific that ever occurred there. Much damage by lightning is reported. From the isolated reports in Vermont and New Hampshire but little information can be gained. In southeastern New Hampshire the reports agree well as to the occurrence of a storm about noon, this seeming to be connected with an earlier one which was also felt in Maine and apparently in southeastern Massachusetts. Nantucket, Mass., reports: "Storm divided, passing north and south of the island, meeting again apparently at the northeast and out at sea." Dover, N. H., reports: "This has been a very peculiar storm. Its track was only about four miles wide, and within its track at some places it hardly rained at all, at others it came down in torrents, and this within one quarter of a mile distant." South Orleans, Mass.: "A succession of clouds has been passing from west to east along southern horizon since early morning, with occasional faint peals of thunder, but developing nothing definite till 10.35 A. M." To sum up, July 19 seems to have brought a succession of more or less violent showers all day, becoming most severe in Maine in the early afternoon, when considerable damage was done by hail and lightning. Connecticut, western Massachusetts and northern Maine were practically free from disturbance.

July 20–21. On July 20 there was a moderate cyclonic area central over the Gulf of St. Lawrence, and the weather over New England was fair. At 3 P. M. Eastford, Conn., reports a thunderstorm rising in the northwest and passing to the northeast, and Berlin Mills, N. H., reports thunder at 2.45 P. M., with a slight rainfall. On July 21 a cyclonic centre was north of the Lakes, the conditions of weather remaining about the same. Utica, N. Y., reports thunder at 6.30 P. M., and rain in the north.

July 22. The cyclonic centre had moved to the Gulf of St. Lawrence, but the weather over New England was still fair, with southwest winds. In Vermont, Huntington Centre had thunder at 3.30 A. M., and rain from 5.15 to 10 A. M. Waterbury Centre reports a shower in the southwest, west and northwest, and distant thunder, but only a small rainfall. Jefferson, Me., reports: "About 11.30 A. M., with a fair sky, a small black cloud began to form in the west, and rapidly increased in size until overhead, when rain fell for twenty minutes. Heavy thunder followed in southeast, where a heavy black cloud hung for some time." A station on Nantucket reports: "The thunder-clouds that come towards the west end of Martha's Vineyard from the northwest for some unexplained reason when over Vineyard Sound break up and change their course. On an east tide they swing to the east, passing over Tisbury and Cottage City; on the west tide they generally pass to the west of the island and pass over the ocean, sometimes returning from the south." New Bedford, Mass., had thunder and lightning at 4.30 A. M.

July 23. The cyclonic area had moved off from the Gulf to the northeast, and New England had normal pressure and fair weather. There are some scattered reports for this day, but no distinct storm occurred. Cohasset, Mass., reports: "When thunder was first heard could not at all see where it came from, as sky to northeast showed merely ordinary northwest clouds. Soon noted one of these a little darker than the rest, and as it came nearer identified it as the thunder-cloud. The cloud passed at a great height overhead, so that the thunder, which was occasional, sounded very distant. It was much higher and less like an ordinary thunder-cloud than any I ever saw."

July 24. Pressure above the normal; light west winds; fair weather.

July 25. A cyclonic area was central north of the Lakes, the gradients over New England became stronger, and the weather was cloudy, with west or southwest winds. The pressure remained low till the close of the month. There are a few reports on this day. Gilmanton Iron Works, N. H.: "Thunder, 2.45 P. M.; rain, 3 to 3.10." Cambridge, Mass.: "Thunder about 2.30 P. M." New Concord, N. Y.: "Thunder, 12 P. M." Collinsville, Conn.: "Thunder, 8.30. Shower very moderate here, but seemed heavier to the north." Utica, N. Y., had rain and lightning, but no thunder, at 11.15 P. M.

July 26. At 7 A. M. the cyclonic area of the preceding day had moved over the lower St. Lawrence. The weather over New England was cloudy, with brisk southerly winds. There were three well-defined storms on this day, — one between noon and 3 P. M. crossed Connecticut and entered Massachusetts; another between 4 and 6 P. M. in eastern and central Massachusetts and New Hampshire, and a third between 9 and 12 P. M. in central and western Massachusetts and New Hampshire. The first storm was first noted in western Connecticut, where it seems to have started shortly after noon. It moved northeast, extending to a few stations in southern Massachusetts near the Connecticut line, but not reaching eastern Massachusetts or southeastern Connecticut. Its rate of advance was about 50 miles an hour. Chestnut Hill, in eastern central Connecticut, on the southern edge of the storm, notes: "Only sprinkled here, as the storm nearly all drifted north." Mansfield Depot, Conn.: "1.30 P. M., dark blue broken clouds moving over other clouds from southwest to northeast; 2.30, smooth rain cloud coming up in southwest; 2.32, rain commenced; temperature, 77°; temperature of rain, 71°." Saybrook, Conn.: "1.40 P. M., two claps of thunder from a cloud in northwest. Clouds apparently divided, moving north and northeast and south over the Sound."

The second storm was of small extent. It began shortly after 4 P. M. at Fitchburg, Mass., and at Sterling and Ashby, to the north and south of it, and moved east, expanding as it advanced, until when it reached the sea it extended from Newmarket, N. H., on the north (thunder, no rain) to Hull, Mass., on the south. Rate of advance about 25 miles an hour. Danvers, Mass., notes: "A muggy day from early morning; brisk west wind, terminating in thundershower." At Hull the storm was observed passing along the shore to the northeast. Lynn, Mass., and other stations note that the day was cloudy and showery, and that the thunderstorm brought a heavier rainfall. Manchester, Mass.: "This storm had no wind, but *tropical rain.*" Wenham Depot: "There were two showers; one followed immediately after the other." At Salem the rainfall was very heavy, and the lightning did some damage. Wilmington, Mass.: "Shower went north of us, and also a shower and considerable thunder south of us."

The third storm was first reported in western Massachusetts at 8.30 P. M., and it moved from there northeast across Massachusetts and southern New Hampshire, being last reported at Manchester, N. H., at 11.55 P. M. The width of the rain area was not above 50 miles. Rate of advance about 30 miles an hour. The storm did not reach the sea. It was very heavy in many places, and there was much lightning.

July 27. The weather was cloudy and muggy, with light rains in New England, and high temperatures. At 7 A. M. there was a moderate cyclonic area central at Montreal, and over New England the pressure was very even at about 29.80 inches. Three distinct storms occurred, the first in eastern Massachusetts, New Hampshire, and southeastern Maine, between 2 and 5 A. M. It was limited to a district near the coast, and moved slowly, averaging only about 16 miles an hour. Its extent along the coast was 150 miles. The storm was of moderate intensity and there was little thunder and lightning.

The second storm occurred very near to the cyclonic centre, which moved from northeast of Lake Ontario southeast across New York and Vermont into eastern Massachusetts between 7 A. M. and 3 P. M. At 3 P. M. it was central in Massachusetts. The storm occurred chiefly to the northeast of the centre between 10 A. M. and 2 P. M., and was confined to northeastern Massachusetts, southeastern Maine and southern New Hampshire. It seems to have extended as far south as Bedford, Mass., and to the north as far as Alna, Me. It advanced to the east at about 20 miles an hour. Kennebunk, Me., reports: "Overcast all day. After shower the remainder of the day dubious and threatening." Most of the observers report a rainy day, which continued after the thunderstorm had ended, and the temperature, which fell during the storm at most places, generally rose again after it. Kensington, N. H., had no rain until after the thunder-clouds had passed, when precipitation began and continued the rest of the day. Melvin Village, N. H., reports: "This storm seemed to divide, as a portion went northwest. It could be seen raining about one or two miles distant, and thunder was heard. Then at 12 M. thunder was heard south, and the roar of the rain falling on the forest was heard preceding its arrival at 12.02½. It began suddenly, and no cool breeze was felt." Gilmanton Iron Works, N. H.: "12 M., calm; temperature, 78°; clouds rising in north and west; 12.45, brisk northwest wind; rain heavy; 1.15 P. M., moderate northwest; temperature, 68°; 4 P. M., wind southwest; fair; temperature, 78°."

The third storm occurred in Massachusetts and northern Connecticut between 3 and 7 P. M., and although the reports are rather few and scattered, the storm seems to have been a distinct one. During these hours the cyclonic area was moving from Massachusetts northeast across Massachusetts Bay, and up the coast of Maine. The storm was first reported at New Concord and Lebanon Springs, N. Y., at 3.30 P. M., and was only noted at two stations in Massachusetts west of the Connecticut River, although several observers in western Connecticut report thunder but no rain. East of the Connecticut River, however, the storm seems to have become clearly defined, and it is well reported over central and eastern central Massachusetts and northeastern Connecticut. It did not reach the ocean, the last records being from Westford and South Sudbury, Mass., and Pascoag, R. I. The lines marking the rain front run in a northeast-southwest direction. The rate of advance was about 30 miles an hour. "A close, muggy, dog-day" is the frequent statement found in the records. Lunenburg, Mass., says: "Very close and muggy at 5.15; rain began 5.30; 6.30, bright in west and air clear and bracing." Northfield, Mass.: "A rain shower west-northwest became heavy; divided when passing over; heavy rain to west and east. With last shower came a fresh northwest wind that drifted the rain like a fog; very distinct advancing edge." Palmer, Mass.: "The storms seemed to rise at once, one rapidly from west-northwest, the other from northeast, and passing southwest seemed to unite." Princeton, Mass.: "Unusually dark purple storm-cloud, funnel-shaped, and standing on its small end which touched the horizon in the west-southwest." South Sudbury: "Storm seemed to divide, part going north and part south." South Yarmouth: "An electric storm in the north. Very bright aurora, almost equal to the light from the moon. I think I never before observed a thunderstorm and the northern lights at the same time." Longmeadow, Mass.: "The rain from this storm fell from cumulus clouds without the cirro-stratus cover, though to the north of here the latter cloud was easily seen, especially after storm-cloud had passed, when it rolled back in a thick layer, growing thinner as it spread out. At 6 P. M., while looking at this cloud, I saw a flash of lightning come out of the storm-centre, go through the cirro-stratus cloud to the outermost edge, then dart diagonally westward towards the earth." Mansfield Depot, Conn.: "Thunder heard in south and southwest. Dark cloud over it, and dark blue broken clouds over this, moving faster." Warren, Conn.: "Storm broke, and went north and south, and went to pieces."

July 28. A cyclonic area was over the Gulf of St. Lawrence, and northwest winds and generally clear weather prevailed at 7 A. M. Warwick, Mass., reports:

"A dull showery day, thunder and lightning 4.50 P. M." Westboro, Mass.: "A day of light showers. Thunder 1 to 2 P. M." Although the conditions seem to have been favorable no definite storm occurred.

July 29. A series of storms remarkable for their severity occurred on July 29 and July 30 in all the New England States. On July 29 at 7 A. M. the cyclonic centre was at Rockliffe, and New England had light variable winds and clear weather, the pressure being between 29.80 and 29.90 inches. During the day the cyclonic area moved east; at 3 P. M. it was central at Montreal, and at 11 P. M. near Father Point. Two well-defined storms occurred, one in the early and one in the late afternoon. Besides these there were some reports in the morning. The first storm (Plate IX, Fig. 15) occurred between 2 and 6 P. M., and extended over all of Massachusetts except the Cape, and over Connecticut and Rhode Island. It was one of the best reported storms of the year. First noted at Lebanon Springs, N. Y., at 1.20 P. M., New Concord, N. Y., 2 P. M., and Poughkeepsie, N. Y., at 2.20 P. M., it entered western Massachusetts about 1.30 and western Connecticut about an hour later, the rain front lines showing the usual lagging in the south. It moved in an easterly direction across Massachusetts and Connecticut, and reached the sea at about 5.30 P. M. in northeastern Massachusetts and somewhat later in Connecticut and Rhode Island. The storm was peculiar in having a well-defined northern limit, for with the exception of one report of rain and lightning at Lewiston, Me., and one from Pownal, Vt., there is no record from any place north of the Massachusetts line, although several observers very close to that line in Massachusetts had quite a severe storm, and others had thunder and lightning but no rain. Such a well-defined limit is not a very usual occurrence in our New England storms, and it is particularly noticeable in this case because it coincided with the state line. On the south the storm went off to sea from Rhode Island, but it seems to have been quickly dissipated, for no rain fell on Martha's Vineyard, although thunder was heard, and Cape Cod also was left untouched. Among the features of interest brought out in the records are the following:—Berlin, Mass.: "It was a light shower, the only noticeable thing about it being the change of temperature (9°) and wind." Mansfield, Mass.: "Storm came from southwest; broke before reaching this place, and passed to the north and south. Very light rain fell, and no wind." North Adams, Mass., near the northern State line, reports: "We were on the northern edge of this storm, and were only grazed by it." Blue Hill, Mass.: "A slight haziness appeared about 11 A. M., and continued to grow in density until 1 P. M., when the sky was covered with a well-defined stratum of cirro-stratus moving from west. This continued to grow in density and was quite dark at 3 P.M., and by 5 P.M. had much the appearance of stratus." Rain began 5.20; ended 6.20. Temperature at 3 P.M., 85°; 7 P.M., 68°. Humidity at 5.30 P.M., 60°; 6 P.M., 90°; 7 P.M., 87°. Longmeadow, Mass.: "At 3.15 P.M. the squall-cloud was about midway between the northeastern horizon and the zenith, and was a very dark belt of clouds; behind it the rain was falling in a smooth gray sheet. There were cumulus tops along on upper side of the squall-cloud. At 3.30 the squall-cloud was overhead and seemed much wider than at 3.15. The motions in the lower part of it were now quite plain. There seemed to be ragged pieces of cloud forming beneath and rising rapidly up into the mass; there was also a general stirring around of the masses this way and that. A strong northwest breeze struck here at the time the squall-cloud was overhead." Glastonbury, Conn.: "Storm seemed to divide, part to east and part to west." Mansfield Depot, Conn.: "3 P.M., clouds rising in northwest; thunder, 3.40; light-colored clouds moving rapidly up over other clouds; dark underneath, very wild and black; 4.11 P.M., upper edge of cloud overhead; edges ragged; appear to move southwest and east, and look as if the cloud had a rolling motion; 4.24, lower edge of cloud overhead; rain began hard; temperature of rain, 65°; temperature of air, 71°; 4.35, less rain; light streaks in southwest; 4.48, cloud in west moving southeast, lower edge ragged, growing smooth; wind rises; rains harder; 5 P.M., rain ends; calm; 6 P.M., sun shines through broken clouds; cumuli rising under the sun; 7 P.M., clear in northwest." The day was sultry and close, and the storm brought a general fall in temperature, varying from a few degrees to 15°. In Massachusetts the storm was generally moderate, but in Connecticut it was quite severe in many places. At Hartford and New Britain it was very severe. Hail fell in abundance in many places, and some damage was done by lightning. Many of the observers note several storms in the afternoon, which it is impossible to separate, and there are several reports from Connecticut of thunder and rain between 8 and 10 P.M.

The most severe thunderstorm of the month came on the night of July 29–30 (Plate IX, Fig. 16). At 11 P. M. of July 29 the cyclonic centre was near Father Point, and at 7 A. M. of July 30 was over the Gulf. Close behind it followed an area of high barometer with cool weather. While the main body of the first storm, which occurred between 2 and 6 P.M. of July 29, passed off to sea about 6 o'clock, there still remained more or less disturbed conditions, for rain and thunder are reported at several stations during the evening. As far as can be made out from the few and inexact records there were several storms during the night. One crossed Massachusetts between 10 P. M. of July 29 and 1.30 A. M. of July 30. It apparently extended to a group of stations in northwestern Connecticut, though as southwestern Massachusetts sends no reports this latter may have been a separate local disturbance. Southern Vermont and New Hampshire also send records. The storm advanced eastward, expanding as it went, until it extended quite across Massachusetts and northern Rhode Island. In southeastern Massachusetts it seems to have faded away, while in northeastern Massachusetts it went off to sea after 1 A. M. Rate of advance over 35 miles an hour.

In Connecticut another storm seems to have developed near the Connecticut River about 4.30 A. M. of July 30 and to have moved southeast across Rhode Island, where it became confused with a third storm, which seems to have started in central Massachusetts about 2 A. M., and from there to have moved southeast, being well reported in southeastern Massachusetts and on Cape Cod. It crossed Martha's Vineyard between 4.30 and 5 A. M. Its velocity was about 35 miles an hour. The unfortunate time of occurrence and the consequent inexactness of the records make a detailed account of these storms impossible. All that can be said definitely is that the night was one of very violent and wide-spread storms in southern New England, which were distinguished by their generally rapid movement and their severity. In the northern part of the district there were fewer reports and no distinct storms.

July 30. At 7 A. M. the cyclonic centre was north of Anticosti, a high pressure area over the Lakes, and warm cloudy weather with westerly winds over New England. The first storm on the morning of this day came between 7 and 10 A. M. in Connecticut and Rhode Island. It did not extend into Massachusetts but passed over Martha's Vineyard at 10.30. Rate of movement about 40 miles an hour. The storm was a very moderate one, and in many places only a sprinkle of rain fell. In southeastern Massachusetts there are several reports of rain and thunder between 6 and 7 A. M., and a few others at scattered hours. Nantasket, Mass., reports: "An unusually heavy storm (4.30 A. M.) and a continual blaze of lightning." Manchester, Mass., reports the most severe storm there for years. South Orleans, Mass.: "Cloud advances till its edge reaches over the land, then sinks back over sea into southeast. It is an admitted fact that the rainfall from thunderstorms in this town and adjoining parts is materially less than that in the balance of the Cape; some account for this by the configuration of the physical features." The third series of disturbances came between 3 and 4.30 P. M. at a group of stations in northeastern

Massachusetts and southeastern Maine, all within a few miles of the coast. The storm moved off to sea very soon. The same group had another local storm between 7 and 8 in the evening, and there are also several reports during the rest of the afternoon. The storms were very moderate, and little rain fell. Blue Hill reports: "The thunder-cloud in the northeast at 6 to 7 P. M. had the rounded top of the cumulus without any cirrus fibres at all. Its top was estimated at 7 P. M. to be about 15° above the horizon. The rest of the sky was almost entirely clear." There were some reports between 3 and 5 P. M. from southwestern New Hampshire and southeastern Vermont, and a slight local storm east of Meriden, Conn., about 4 P. M. Between 1 and 2 P. M. there were also some reports from southeastern Massachusetts, Fairhaven noting "one of the hardest storms that have passed over this town for a long time." This afternoon may, therefore, be characterized as one of five or more generally slight and very limited local storms, none of them lasting two hours, or moving more than fifty miles. The pressure over New England was a little below the normal, and the cyclonic centre had passed off north of Newfoundland. Lightning was very generally reported during the afternoon and evening. Newburyport, Mass.: "The storm seemed to proceed in two sections close together. One section with heavy thunder and heavy rain moves by in the north and northeast at an estimated distance of three miles; the other with heavier thunder and less rain moves nearly overhead, perhaps a little north. Probably there is no space between the two sections, but one is adjacent to the other; the fresh north-northeast wind probably brings to us some of the rain from the more distant section." Ridgefield, Conn.: "This day I think has been the most sultry and oppressive of the season. The atmosphere is laden with moisture and a thick murky appearance prevails, giving signs of rain throughout the morning. In the afternoon the clouds began to gather and thicken and thunder was heard from four different points for two or three hours, and heat lightning continued at least until 10 P. M. The past few days have been extremely hot, sultry and oppressive."

July 31. The pressure was slightly below the normal and very even over the district, the weather cloudy, with light northerly winds. The cyclonic area had moved away to sea over Newfoundland. One storm occurred in the morning between 7 and 9, and was confined to eastern Connecticut and southeastern Massachusetts, reaching Long Island on the south and Boston on the north. It passed out to sea off the Cape after 9 A. M. Rate of advance about 50 miles an hour. The day was generally reported as cloudy, and the storm, which was of moderate intensity, was not followed by clearing weather, though the clouds were somewhat scattered after it. There was little wind all day, and the temperature was very even, not being perceptibly reduced by the storm.

August. August was characterized by an abundance of fair weather, a temperature below the average, and by the small number, moderate intensity, and small extent of its thunderstorms.

August 1. The month opened with pressure slightly below the normal in New England, and with the development of a cyclonic area east of Lake Ontario at 3 P.M. of August 1. At 7 A.M. New England was generally cloudy. The first thunderstorm of the month occurred between 5.30 and 7.30 P.M. in Vermont and southeastern New Hampshire. It moved southeast and was dissipated in southeastern New Hampshire. Rate of advance 30 miles an hour. The storm was light and was generally followed by rain during the night. One report mentions hail. There are scattered reports of rain and thunder during the evening from other parts of the section.

August 2. The cyclonic area was moving off to the northeast, and the weather was cloudy or rainy, with southerly winds. About noon a storm was reported close along the sea-coast in northeastern Massachusetts, New Hampshire and southeastern Maine. It is impossible to give its rate of advance, as it began only a few miles inland. Mayfield, Me., reports: "It rained from 1 to 9 A.M., then cleared off with a west wind and sultry air. Temperature, 75° at noon. At 11.30 A.M. the sun was shining and a squall-cloud passed from west to east south of us, accompanied by a strong wind and a single peal of thunder in south." Newburyport, Mass., reports one storm at 11.48, and a second at 12.29, the latter with no rain. The second storm, "possibly only a ramification of the first, appeared about 12.10 P.M. on the southwestern edge of the cumulus clouds that had passed the zenith, and extended across through the southeast quadrant from northeast to southwest. At 12.15, when the clouds of the first storm were nowhere more than 45° above the horizon, the cumulus reached up from horizon nearly to the sun. Heavy rain was falling in the southwest and light rain in south, where clouds extending about 45° above horizon seemed to connect the two centres. Air clearer after shower than for several days previous." Pigeon Cove, Cape Ann, Mass.: "As is often the case here the storm seemed to divide, the heavier part going to the north and west, and the other going southwest to south." Longmeadow, Mass.: "At 4.20, saw a large cumulus cloud on southwestern horizon; this expanded and soon had cirrus above it. At 11.45 another formed a little east of the first. Both grew and with additions were on the southern horizon at 1 P. M. and passed out of sight about 1.30 in the south-southeast."

Cape Cod was visited between 3 and 4 P. M. by a local storm of moderate intensity. Osterville reports: "A very beautiful mass of cumulus cloud in the north at 3.30 P. M. At 3.40 a few large drops of rain; also a marked gyration of dark lower cloud, appearing to me as though there might be hail at the northeast. Osterville may be regarded as marking the southern limit of the storm, receiving the breeze and a few drops of rain." Provincetown: "The transit of this storm was quite rapid. No cirrus clouds either before or after this storm."

August 3. The cyclonic area was moving over the St. Lawrence Gulf, with brisk west winds and cloudy weather over New England. New Concord, N. Y., reports a "tornado" from the west, which was probably only a squall in the northwest wind in the rear of the cyclone.

August 4. The pressure rose and fair weather and westerly winds prevailed. South Lee, Mass., reports: "A heavy thunderstorm at the south of us 9.40 P. M. Heard the thunder distinctly. A gust of rain here about 8 lasted not longer than thirty seconds."

August 5. The pressure was normal and remained nearly stationary until August 7 and 8, when it rose above the average. These days were pleasant, with the exception of slight showers on August 5 and 7. Between 6 and 7.30 P. M. of August 5 a small storm occurred in southern Massachusetts, beginning east of the Connecticut River and moving east. It did not reach the sea, and was limited to southern Massachusetts. Rate of movement over 33 miles an hour. Longmeadow, Mass., notes: "This afternoon the sky was about one quarter cloudy, with cumulus clouds passing from west to east. A little before 5 P. M. a large cloud appeared in the west-northwest, and the top of it seemed to be spreading out, not in the cirrus elevation but lower." Rain followed the storm and continued until the next morning. Between 8.15 and 9.30 P. M. Fitchburg and other stations near it in Massachusetts, and Nashua, N. H., report rain and thunder. It was the beginning of a general rain which lasted most of the night. One report speaks of the clouds as being more like nimbus than thunder-clouds, and another says it would hardly be called a thunderstorm. Brattleboro, Vt., Dover, N. H., Kennebunk, Me., and Providence, R. I., also note rain beginning at about the same time.

August 6. Pressure normal, weather cloudy and southerly winds. Three stations on Cape Cod report a storm about 11 A. M., and two report one about 2 A. M. Vineyard Haven notes: "Thunderstorms here generally follow the tides in the Vineyard Sound; if the tide is running to the east, going in that direction, and if to the west, to the west also." There are also five other scattered reports.

August 7. The pressure was slightly above the normal, weather fair, with light northeast and east winds. A cyclonic area was approaching from the south, being off Chesapeake Bay at 7 A. M. of this day.

August 8. Similar conditions prevailed, but with cloudy weather and light rain in the northeast. The cyclonic centre had moved off to the sea in the south.

August 9. The pressure rose still further; clear weather and light southerly winds prevailed over the district. There were no reports of thunder on August 7–9.

August 10. Similar conditions prevailed, with west winds. One report, from Irasburg, Vt., notes a thunderstorm between 4.15 and 5 P. M., accompanied by a high west wind.

August 11. A cyclonic area which had moved from the Lakes passed in a northeast direction north of the St. Lawrence River, bringing warm southerly winds over New England, with fair or cloudy weather at 7 A. M. During the afternoon and night there was much thunder and rain in Vermont, northern New Hampshire and Maine. It is, however, impossible to separate these reports into distinct storms. Between 5 and 8 P. M. seems to have been the time of greatest disturbance, and there was one distinct storm moving east in Maine then. With the exception of a group of stations in south-central Massachusetts and northeastern Connecticut, which report storms between 2.30 and 5 P. M., all of southern New England was left free of disturbances. East Bethel, Me., reports: "Storm apparently divided." Solon, Me.: "Hail fell a few minutes; stones large, some of them one inch in diameter. There was snow inside and ice outside." Colebrook, N. H., suffered severely from hail, crops being much damaged, and many panes of glass broken. The hail fell in patches, crops between being left unharmed. The storm was only one mile wide at this place." Milan, N. H.: "Came from north-northwest with terrific force, preceded by dense black clouds and accompanied by a deluge of rain. Wind estimated at sixty miles." Melvin Village, N. H.: "During the morning the weather was very warm, with hardly a breeze." Northfield, Vt.: "Intensely hot and close." Longmeadow, Mass.: "1 P. M. on western horizon I saw a cumulus cloud, which appeared alternately to form and dissolve; 1.30, the original clouds were in the west-northwest. I saw no rain below any of the clouds until they were nearly here. As the offshoot (from the main cloud) passed over here it seemed to develop rapidly, as the rain fell in sheets; the cumulus cloud at this time also seemed to expand and spread out as cirro-cumulus both to front and rear."

August 12. The cyclonic area was moving across the Gulf of St. Lawrence, giving fair or cloudy warm weather in New England. Between 3 and 5 P. M. there was a storm in eastern Massachusetts, which seems to have consisted of two sections, so that its advance is not easily made out. One part began at Princeton and Spencer (thunder at 3.19 and 3.25; no rain), and moved southeast, apparently soon fading away. The other part started about 3.30 at Sudbury, Newton, Auburndale and Natick, and moved east and southeast across the Bay, being noted at some stations on the Cape after 5 P. M. The storm was a narrow one. Rate of movement about 40 miles an hour. Mr. Clayton sends some interesting notes of this storm: "No cirrus overflow was seen in front of this storm, but its presence was suspected in the rear. Only the rounded top of the cumulus, with ragged lateral edges, was seen in front. Minimum thermometer in a Hazen shelter at base of hill read 4° higher than minimum in window shelter at top of hill." The barograph curve for this day from Blue Hill shows the usual sudden rise before the storm, which continued after rain began. It fell very suddenly during the time of heaviest rain, and rose again, at first suddenly and then gradually. The hygrometer rose from 58 at 4 P. M. (before rain began) to 99 at the time when the rain stopped (4.26), and fell again to 75 at 5.15. The thermometer fell from 80° at 4 to 61.5° at 4.30, and then slowly rose till 6. The self-recording rain-gauge showed a rainfall of 0.04 inch in about fifteen minutes. At Hingham and Cohasset the storm was severe, with much lightning, a strong gale, and heavy rain and hail. Osterville reports: "5.30, a belt of dark cloud, having the form of a segment of a circle, is rapidly approaching from the north; wind southwest, very light; 5.40, the squall reaches Osterville; wind changes immediately; barometer rises 0.05 inch; no rain nor thunder." Provincetown: "5.43, break in clouds to west and northwest, in which a wisp or two of cirrus is seen, the first and only cirrus observed in connection with the thunder-clouds." Many of the reports mention a decided cool breeze before the rain, and a considerable fall in temperature afterwards, which gave a cool evening after a hot sultry day.

August 13. The cyclonic area of August 11 and 12 had moved off to the northeast, and another was advancing over the Lakes; the weather was fair, with light westerly winds. There are four isolated reports from Vermont, Massachusetts and New York during the afternoon, and also reports of a storm between 11 and 12 P.M. from a group of stations on the eastern shore of Lake Champlain. St. Albans says: "This thunderstorm turned into a rain which continued until 7 A. M., and from 3 to 6 A. M. there was a steady pour, coming down in sheets, but with no thunder and lightning."

August 14. At 7 A. M. the cyclonic centre was north of Quebec, and New England had brisk southerly winds, cloudy weather and light rains, with high temperature. Two storms occurred on this day. The first was reported at New Haven, Conn., at 8 A. M., when rain fell, accompanied by two claps of thunder. The storm moved east and was next noted at Saybrook, at 8.52. Then it rapidly expanded to the north; crossing Rhode Island it reached Providence, and covered southeastern Massachusetts fairly well. Marshfield, on the northern edge of the storm, reports rain and distant thunder, and the last reports are from Cape Cod, whence the storm moved off to sea after 12 M. Rate of movement over 40 miles an hour. Marshfield, on the northern side of the storm, as just noted, makes an interesting record that "the edge of the cloud was about one-third of the way up the zenith in the south." Osterville, Mass.: "The three heaviest peals of thunder were at 12.10, 12.19 and 12.26, and immediately after each the rain was much increased. In the first instance the very heavy rain lasted eight and a half minutes; in the second instance four minutes; and in the third instance it lasted only one-half a minute." The characteristics of this storm were that it occurred in a general fog, brought a heavy rainfall, and was followed by clearing weather with no changes in temperature.

The second storm developed in eastern Massachusetts about noon and moved southeast across Massachusetts and Rhode Island, reaching the sea after 2.30 P. M. Cape Cod escaped the storm, and only one station in Connecticut, in the extreme southeastern corner, reports rain. Block Island had no rain, but reports thunder at 2.35 P. M. On the north the storm reached Cape Ann, where it rained only a few drops. The rate of movement was 28 miles an hour. The storm seems to have been dissipated after leaving the shore, as Martha's Vineyard sends no report of its being felt there. West Upton, Mass., says: "12.30, south wind, light; temperature 80°; 12.45, northwest, brisk; temperature 72°; 1.30, wind west, light; temperature 80°." Pembroke, Mass.: "The storm seemed to move opposite to the wind." Blue Hill: "The top of the cloud at places had the appearance of the festoon cloud both in front and rear of the storm. At 2 P. M. the cirrus filaments at edges of cloud-top extended out from cloud toward northwest, but a few detached filaments had a motion from southwest, while the whole cloud seemed to be moving from west-northwest. The motion of the upper cloud changed from southwest to west with the passage of the thunderstorm." The self-recording thermometer at Blue Hill showed curious fluctuations during the storm, and also a slight fall after it had passed, followed by a rise. The barometer also varied in a peculiar manner. The storm brought a fall of temperature during its passage, but was followed by a rapid rise. Clinton, Mass., notes: "Sun scalding hot immediately after." Hingham, Mass.: "Our storm was a small part split off, and south of us . . . they had a very heavy rain, and from this place I could hear heavy rumbling thunder in that direction and see very black thunder-heads." Quincy, Mass.: "Three sets of clouds; upper running from west, middle from southwest, lower from west-southwest.". Slatersville, R. I.: "The storm seemed to be in detached masses." The rainfall was generally very heavy. In northern Vermont there were a few reports, most of them of a storm between 4 and 5 A. M.; also a few from Maine, which were mostly of a rain-storm with an occasional peal of thunder.

August 15. The cyclonic area was crossing the Gulf of St. Lawrence and Newfoundland, while a high pressure area was approaching New England over the Lakes. The weather was clear and cool, with west winds. No reports on this day.

August 16. A cyclonic depression, with pressure at the centre 29.60 inches, moved east very rapidly from the Lakes, and passed directly across southern New Hampshire and Vermont during the night. It was attended by heavy general rains, with southeast winds. Although the conditions seem to have been favorable for the development of thunderstorms, only five scattered reports mention thunder. After the passage of the depression the pressure rose rapidly, and remained above the average from August 18 to 22.

August 17. At 7 A. M. the cyclonic centre was south of Nova Scotia, and New England had cloudy and rainy weather, with north and northwest winds.

August 18. This day brought clear weather and variable winds. Three reports of thunder and rain came on this day. Mayfield and Augusta, Me., speak of the day as being showery, and Ekonk, Conn., had a slight shower at 8.30 A. M.

August 19. The pressure was 30.20 inches; weather partly cloudy; winds north and west. In southeastern Maine a group of stations report a storm between 12.10 and 1.30 P. M., which was a succession of light showers. Portland, Me., says: "Storm seemed to divide, passing to southwest and northeast."

August 20–21. Anticyclonic conditions prevailed, and there was no record of rain or thunder.

August 22. The pressure began to fall under the influence of a severe cyclone from the West Indies, which had come from off the South Atlantic Coast. The weather conditions of New England were not materially affected by it, perhaps owing to the persisting high pressure over the district.

August 23. The cyclone had moved to south of Nova Scotia, New England having westerly winds and clear weather. Blue Hill reports lightning in the evening.

August 24. The conditions were anticyclonic, weather fair or cloudy, with light westerly winds. There are three reports from southern New England during the late evening, of thunder during a rain of some hours' duration.

August 25–27. The pressure was nearly normal, and the weather fair or partly cloudy. Light rains fell on August 25, due to a poorly defined cyclonic area off the Middle Atlantic coast. On August 27 another cyclonic area passed north of the St. Lawrence.

August 28. The cyclonic area of August 27 had moved off from the Gulf of St. Lawrence; the weather was clear, with westerly winds. Chestnut Hill, Conn., says: "Shower was a very small thunder-cloud coming with the wind, passing overhead and joining a very large thunder-cloud, which rose in the northwest and drifted northeast." At Westford, Mass., it rained all the afternoon, with some thunder.

August 29. A cyclonic area moved across the upper Lakes, and in the early afternoon the long period of no thunderstorms was broken by the occurrence of a storm in Connecticut and southern Massachusetts between 2 and 4 P. M. Although many of the records mention a distinct movement, yet it is impossible to draw any lines marking the rain-front or loudest thunder, the times being very confused. All that can be said is that there was considerable thunder and rain during these hours, but no distinct movement of the storm as a whole. Longmeadow, Mass., says: "3.45 P. M., storm moving in northwest; 4.30, dark bank of clouds in north and northwest, with cirro-stratus reaching to zenith; 5.30, storm in north about the same as at 4.30, but losing intensity; 6.00, storm in north either dissolved or moved out of sight in north, as a patch of cirrus is all that is left." The day was hot, sultry and hazy. In many places the thunder was distant and no rain fell. The wind changed during the afternoon to east, bringing clouds. Three reports note the storm as moving from east to west.

August 30. The cyclonic area moved north of the lower Lakes, and New England had cloudy weather and southeast winds. Two records note thunder in a rain lasting some hours, one reports thunder without rain, and one notes a short but distinct shower.

August 31. The weather continued cloudy, and the cyclonic area passed off to the northeast over the St. Lawrence. A well-defined storm occurred between 11 A. M. and 2 P. M., principally in the eastern and northeastern part of Massachusetts, and along the coast in New Hampshire and Maine. It was first noted at Longmeadow, close to the Connecticut line in south-central Massachusetts, at 9.30 A. M., and then at Dwight and Gilbertville, east of the Connecticut River in central Massachusetts, but it does not seem to have got fairly started until it reached Fitchburg and Worcester. From here eastward it was fully reported. It moved northeast along the coast, the lines marking the rain-front running almost parallel with the coast. South of Blue Hill there is no record, and on the west there are no records from Vermont. On the north it was felt at Augusta and Lewiston, Me. It went off to sea in Maine and New Hampshire after 1 P. M.; in northeastern Massachusetts after 1.30, and in eastern Massachusetts after 2, thus clearly showing the lagging in the south. The rate of movement was about 25 miles an hour. The average extent inland from the coast was 60 miles in Massachusetts, 40 miles in New Hampshire, and 30 miles in Maine. The rain, which began as a thunderstorm, continued throughout the afternoon and night. Blue Hill reports: "There was no thunder with this shower, but it seemed so much like a thunderstorm that only the thunder was needed to make it a full-fledged storm. As the storm approached a distinct gap was seen in the direction of Dedham. It seemed to be raining heavily on each side of the gap, but apparently not at all within. The gap soon closed up and the rain advanced onward with a continuous front running north and south as far as the eye could see. Just in front of the line of rain were festoon cumuli moving from west, and just in front of these were cumuli moving from southwest. The temperature fell from 77° at 1 P. M. to 68° at 2 P. M. (rain began 1.53). Newburyport, Mass.: "Cumulus clouds (very dense) extend to 60° east, southeast, and south of zenith. Filaments on lower edge of same moving up into the main body of the cloud."

THUNDERSTORMS OF 1886. SEPTEMBER TO DECEMBER.

After August but few observers continued their records, and for the rest of the year the materials are scanty. In the accounts of thunderstorms for the months of September to December the Monthly Bulletin of the New England Meteorological Society has been used in order to make the records more complete.

September. The first third of September was fair and dry, with high pressure. Cool northwest winds prevailed for six days, followed by four or five days of warmer weather with southerly winds, as the pressure fell. The second period of the month was variable, with some rain from September 9 to 13, during the passage of two distinct cyclonic areas over Canada, and on September 16–17. Light rain occurred at some northern stations on September 9, on which day a faint barometric depression moved over the upper Lakes. There were four reports of thunderstorms from stations in southern Vermont, New Hampshire and Maine during the afternoon, apparently only thunder occurring in the general showers. During September 10 the depression moved north of the lower Lakes, bringing general rains. Four reports on this day mention rain and thunder during the late evening or night. At Burlington, Vt., damage was done by lightning; in the other places there was slight intensity.

On September 12 the second cyclonic area moved north of the St. Lawrence, and between 3 and 11 P.M. passed south from Father Point to Massachusetts Bay. General rains prevailed, with southerly winds. A few stations in Massachusetts and Connecticut report thunderstorms, principally between 4.30 and 7 P.M., but no movement can be made out. It appears from outside records that this storm began in western Massachusetts about 3 P.M., and reached the coast soon after 9 P.M. It was quite severe, with strong wind, heavy rain, and destructive lightning, and was felt from northwestern Connecticut into southern Maine. Velocity about 25 miles an hour. It was followed by a second storm in the western and central parts of the State two or three hours later. A "tornado" is reported to have occurred four miles east of Hartford, Conn., in the evening of the same day.

On September 17, as noted above, a cyclonic area moved north of New England over the St. Lawrence, giving southerly winds and rain. From the few records it seems that a storm began in western Massachusetts about 6 P.M. and moved east across the State, going off to sea about 10 P.M. It was noted in northern Connecticut (one station), and in southeastern New Hampshire (two stations). Rate of movement 30 miles an hour. South Weymouth, Mass., reports: "Heavy clouds in northwest with thunder and lightning. Cloud divided and passed to north and south, or was solid from southwest to northeast, with thunder at both points." Roxbury, Mass.: "Very sultry all day. The storm was slow in rising in northwest, but came on with a strong gale from west and northwest." The storm was followed by quite a fall in temperature, and by northwest winds. Over part of the district there are reports of a storm earlier in the afternoon.

On September 18 the pressure was above the normal, with northwest winds and clear weather. Wolfboro' Junction, N. H., reports a storm from the northwest between 3 and 5 P.M., the day being "muggy" and the sun very hot. During September 19 another cyclonic area moved rapidly over the lower Lakes and the St. Lawrence, bringing southerly winds and rain to New England. A storm occurred in Massachusetts east of the Connecticut River between 8.30 and 10.30 P. M. It did not extend to the Cape, and was only noted at one station (Nashua) in New Hampshire. The day was cloudy and rainy, and after the storm the sky cleared, with northwest winds. Between 7 and 9 P. M. in Vermont, and between 9 and 11 P. M. in Maine, there are several reports of thunderstorms. From the correspondence in time with the storm in Massachusetts it seems likely that they all belong to one storm, which extended over most of New England.

September 20–22 had high pressure, with mostly brisk, cool northwest winds and fair weather, September 23 bringing some rain with southerly winds, though the pressure was 30.20. Setauket, N. Y., reports a shower between 4 and 5 A. M. Bethel, Conn., thunder at 8 A. M., and Block Island, thunder at 8.30 A. M. Rain was frequent from September 25 to 29, while the cyclonic area moved slowly over the Lakes and Canada.

On September 25 Strafford, Vt., reports thunder at 2.10 P. M., and distant lightning, and Bethel, Me., a storm between 4.30 and 6 P. M. On September 28 there were a few reports during the night. It seems, however, from outside reports that a widespread thunderstorm occurred, extending over western Massachusetts about midnight and moving obliquely into Maine in the early hours of September 29. The first report is from Concord, N. H. (11 P. M.). Three reports from New Hampshire give the hour at which it crossed the southeastern part of that State as between 1 and 2 A. M., but of its course in Maine nothing definite can be said. The last two days of the month were generally fair, with pressure near the normal.

October. The first report comes from Berlin Mills, N. H., on October 20, when a cyclonic area moved over the Lakes, giving light rains at the western and northwestern stations on October 21. On October 30, in general rains due to a storm which came up the coast, there were a few reports of thunder and lightning in northeastern Massachusetts between 10 and 11 P. M. The cyclonic area was then moderate, and off the coast to the south. Portland, Me., reports that the storm moved to the west. On October 31 the cyclonic area still lingered off the coast. Gardiner and Augusta, Me., report a storm about 1 A. M.

November. On the morning of November 6 a storm developed in West Virginia and moved over New England to Nova Scotia, giving rain at all stations, being accompanied by high southerly winds of mild temperature, and developing at least two thunderstorms. One came in eastern and southeastern Massachusetts between 4 and 6 P. M., and the other about midnight in southeastern Massachusetts. Maine, also, sends two reports at about the same time. In southeastern Massachusetts the storms were very severe, much damage being done by lightning and the rainfall being heavy. Several reports speak of this as the most severe storm ever known in November. November 18 was rainy, and during the afternoon high warm southerly winds blew, with heavy rain and thunder and lightning. Eastern Massachusetts, Connecticut and Rhode Island had a well-defined storm between noon and 2 P.M., which extended into southeastern New Hampshire and Maine. Rate of movement about 40 miles an hour. November 25 was characterized by a chilling northwest wind, with snow, sleet and rain, due to the advance of a storm off to sea. Rhode Island and southern Massachusetts had a thunderstorm during this rain, between 6.30 and 8 P.M. November 30 was again rainy, and brought reports of the last thunderstorm of the month which, as before, was felt chiefly at the southern stations, and during the late evening. It seems to have begun in western Connecticut at 9 P.M. and to have crossed Rhode Island and southeastern Massachusetts, reaching the sea after 11 P.M.

December. On December 19 New Bedford and Nantucket, Mass., report thunder during a rain-storm in the morning. The cyclonic area was over the Gulf of St. Lawrence at the time.

REVIEW AND DISCUSSION.

Number of Thunderstorms. The following table gives in the second column the number of days in each month on which reports of thunderstorms were received, and in the third column the number of days on which the storms reported showed distinct movement.

Month.	*Days with Reports.*	*Days with Movement.*
January.	1	0
February.	3	1
March.	4	2
April.	4	2
May.	12	5
June.	18	6
July.	26	11
August.	17	6
September.	9	4
October.	3	0
November.	4	4
December.	1	0
Total	102	41

It appears from this table that May, June, July and August were the months of 1886 in which thunder was most frequently heard, and that July was the month of most frequent distinct thunderstorms. On 40 per cent. of the days when thunder was reported there were storms with marked progression. The small number of observers from January to May, and from October to December, makes any comparison for these months unreliable.

Time of Occurrence. The time of occurrence of the storms of May, June, July and August was in the greater number of cases in the afternoon and the hours of greatest frequency were 5–7 P. M. The thunderstorms of the winter months occurred mainly in the evening or during the night, and near the sea-coast.

Rate of Movement. The average rate of movement of all the storms throughout the year was about 35 miles an hour. The small number of records in many cases has made accurate charting impossible, but this determination of the velocity of the storms may be considered a fair estimate. It is noticeable that the lowest velocity noted was that of the thunderstorm of July 18 (14 miles an hour), while the one of May 31, which occurred under somewhat similar conditions of pressure, had a velocity of 50 miles an hour.

Relation to Cyclonic Areas. The results of the charting of the relative positions of the cyclonic centres and the regions of thunderstorms, already referred to in the introduction, are given in Plate VII, Figures 1, 2, 3 and 4, which show these lines for June, July and August. They are drawn connecting the centre of low pressure with the thunderstorm district in all cases when there were storms showing distinct progression. It will be noticed that these lines show a striking correspondence in direction in all the months, two marked cases of exception occurring on July 14 and 15, when thunderstorms occurred northeast of the cyclonic centre. In the preliminary charting such lines were also drawn to all regions where thunder was heard but where the storm had no progression, and these showed much less regularity, there being no marked parallelism as in the cases of the June, July and August lines of these figures.

In June, fourteen storms with distinct progression were reported. In ten cases the cyclonic centre was between sixty-seven and seventy-two degrees west longitude, north of the St. Lawrence; three storms occurred with no distinct centre of low pressure, and one occurred under anticyclonic conditions. In order to see whether or not there was any characteristic arrangement of isobars in connection with cyclonic areas in Canada which brought thunderstorms to New England in June, a composite portrait was drawn of the isobars at 7 A. M. on the days when storms occurred in the southern quadrant of cyclonic areas. The only relation that could be made out was on June 7 and 25, each of which showed a circular low pressure area over the lower Lakes, a high area over Nova Scotia, and isobars running north and south over New England. The next step was a comparison of weather conditions at 7 A.M. on the days which brought thunderstorms with the conditions on those days which had similar arrangements of isobars and brought no storms. The results are not very clear, but it seems from the tabulation that the days which brought storms had as a rule stronger gradients than those which did not produce storms. It is a noticeable fact that in several of the latter cases the cyclonic area was closely followed by a high area over, or south of, the Lakes, which, moving to the east, came over New England during the day, bringing anticyclonic conditions. In all the cases of this kind the pressure over the district at 7 A.M. of the following day was about thirty inches or over. Of the nine "no storm" days mentioned above, which had an apparently favorable arrangement of isobars for thunderstorm development, four sent no reports at all.

After taking out the maps of the six days when distinct storms occurred, and those of nine days when apparently similar conditions brought no storms, fifteen maps were left; ten of these were distinguished by barometer over thirty inches weak gradients and generally light winds and fair weather, and on seven of these days no thunder was heard. This shows that anticyclonic conditions are generally unfavorable for the production of thunderstorms. Three of the remaining five days were characterized by anticyclonic conditions, but the pressure was somewhat below thirty inches. The remaining two were cloudy under the influence of cyclonic areas on the middle Atlantic coast and off Nova Scotia. The last step in this attempt at correlation was an examination of the thunderstorm records in the Monthly Weather Review, for the purpose of determining whether Ohio, Pennsylvania and New York had storms previous to the time of occurrence of the New England storms, for in this way prediction might be made more accurate for New England. The data given in the Review are insufficient for this study, but Prof. H. A. Hazen has found in his work that the series of storms during this month evidently progressed from west to east across the country. For instance New England had a storm on June 10, Ohio and neighboring States had storms on June 9, and Dakota, Iowa and Nebraska on June 6. In the same way the New England storm on June 17 was preceded by storms in Ohio on June 16, and in Iowa on June 14, and the New England storms of June 25, by storms in Ohio on June 24, and Dakota, Iowa and Nebraska on June 20.

During July twenty-two well-defined progressive storms occurred. The locus of most of the cyclonic centres in connection with which thunderstorms occurred, was between sixty-two and seventy-two degrees west longitude, and north of New England, the centre being within these limits in fourteen of the twenty-two cases. In three cases the storms were practically at the centre of low pressure; in two they were northeast of the centre; in two they occurred under anticyclonic conditions, and in one case the cyclonic centre was over the Lakes. A similar plan to that used in the case of the preceding month was adopted in July, August and September. The composite portrait of the isobars at 7 A. M. on the days when storms occurred in the southern quadrant of a cyclonic area, showed no system beyond the general gradient to northeast, north or northwest. The attempt to correlate certain kinds of weather with the occurrence of thunderstorms was also unsatisfactory. The 7 A. M. maps of those days on which the cyclonic centre was north of New England and thunderstorms occurred, were compared with the maps of those days when the cyclonic centres occupied similar positions and no distinct storms occurred. The height of the barometer (shown by lowest isobar), the strength of the gradients, the temperature, the rainfall (heavy or light), the direction and force of the wind, and state of the sky were noted in this connection. Taking eight cases of each kind, the only thing which, after this somewhat superficial examination, seemed to distinguish thunderstorm days from those days on which no thunderstorms occurred, was the temperature, which as a rule was higher on the days which brought local storms.

Of the days which had apparently similar conditions, as to position of cyclonic centre, weather, etc., to those which distinguished thunderstorm days, three had no reports of thunder or rain, and five brought scattered reports only. After taking out the maps of the eleven days when distinct storms occurred, and also of seven days when the cyclonic centres were north of New England and no distinct storms occurred, as noted above, there were left thirteen maps. Of these thirteen days, five brought no reports, and eight brought reports of thunder and rain, without giving any definite movement of the storms. On eight of the thirteen days the pressure over New England was thirty inches or above, and the maps were characterized by very weak gradients and high areas central (usually) over the Lakes, or over the States south of the Lakes. Yet on July 31, when one of the most distinct storms of the summer occurred, the general conditions were the same as those shown on these eight maps, with the exception of a slightly lower pressure on July 31. On July 18, when one of the most violent storms occurred, the conditions were also very similar. It appears, then, as in the case of June, that high pressure and weak gradients will usually not produce thunderstorms. Three of the days which brought no reports were among these distinctly anticyclonic days. Of the five remaining maps of the thirteen, two had cyclonic centres over the Gulf of St. Lawrence, similar to the conditions on many days when storms occurred. Yet one of these days brought no reports, and the others only a few. The three remaining maps had low pressure areas over the Lakes, and weak gradients. On one of these no reports were made. The final step in the investigation of the July storms was taken to determine whether or not our storms in New England were preceded by thunderstorms in Ohio, Pennsylvania and New York. The Monthly Weather Review was used, and, through the kindness of the Chief of the Weather Bureau, the original records of the volunteer observers in those three States have been rendered accessible as a further aid in this study. New York and Pennsylvania had so few observers in July that their records are of little value. The records from Ohio, however, show that July 13, 14, 15, 17, 26 and 30 were days of extended thunderstorms, and it will be noted that New England had well-marked storms on July 14, 15, 16, 18, 27 and 31, *i. e.*, on all days following those on which Ohio sent the greatest number of records. The New England storm of July 14 (7–10 P.M.) was preceded by storms in Pennsylvania and New York during the night of July 13–14.

During August nine storms showing distinct progression occurred, of which number six came when the cyclonic centre was on, or north of, the St. Lawrence, between sixty-seven and seventy-two degrees west longitude, *i. e.*, roughly between Quebec and Father Point; one when the centre was northeast of Lake Ontario; one when it was over the Gulf of St. Lawrence, and one under anticyclonic conditions. The three most severe storms occurred on days when the 7 A.M. map showed cyclonic centres at Father Point, with distinct trough-shaped isobars to the south. In the case of four storms the cyclonic centre was at Father Point or over the Gulf, but the isobars were not trough-shaped, and in the remaining two cases the pressure was near the normal, with no centre of low pressure. The composite portrait of isobars, as in the cases of June and July, again shows no definite system. A comparison of the weather conditions on the days which brought storms with those on the days when cyclonic areas occupied similar positions but no storms occurred, showed no striking feature differing in the two classes except the temperature, which was as a rule higher on thunderstorm days. Again, as in the other cases, taking out the two sets of maps just mentioned, nineteen maps were left. Of these, twelve were marked by pressure thirty inches or over, weak gradients and generally clear or fair weather, the high pressure areas being central off the coast or over the Lakes. Yet the storm of August 5 occurred under apparently similar conditions of high barometer. As was seen in the cases of June and July, high pressure and weak gradients are unlikely to produce thunderstorms. Of the seven remaining maps, three had pressure a little below thirty inches in New England; two had cyclonic centres south of Nova Scotia; weak gradients over New England; light or moderate north and northwest winds, and two had centres over the Gulf, with east and northeast winds. During the month, Ohio sent the greatest number of reports on August 1, 11, 13, 14, 16 and 22. New England had distinct storms on the following days in two cases only. The storms of August 11 in Ohio occurred mostly between 3 and 5 P. M.; those of August 12 in New England also from 3 to 5 P. M. The storms of August 13 in Ohio occurred between 2 and 7 A. M.; those of August 14 in New England from 9 A. M. to 2 P. M. The results of foreign studies of thunderstorms, and of some of the studies in this country, have shown that, in many cases, thunderstorms occur in connection with a tongue of high pressure in the southern quadrant of these areas. The maps have been examined with a view of determining whether or not such a relation can be made out for New England, but as far as the isobars as drawn on these maps are concerned, no result has been reached. A number of cases have been found where such tongues did exist, but they did not mark thunderstorm days as distinguished from days of no storms.

During September six distinct storms were noted, all of which occurred with the cyclonic centre north of New England, between sixty-seven and seventy-two degrees west longitude; in four cases the centre was south of the St. Lawrence.

The reports on which this study is based were generally good, but they were too few to allow of any exact work, and the conclusions reached in this investigation must suffer to some extent in consequence. Some of the storms which have been omitted from the classification, as having shown no distinct progression, would probably have been included if more reports had been made of them, so that their extent could have been shown. The main facts in connection with our thunderstorms have been clearly brought out again: the rise of the clouds from the west; the squall-wind in front; the sudden and usually short rain; the cooling after the shower; the rapid clearing off. Most of the observers have sent but brief notes; many, however, have added to our knowledge of these storms by intelligent and pointed records of various features of interest noticed in connection with the storms, and the most important of such notes have been quoted in these pages. The growth and movement of the clouds is a point which but few observers note at all, and yet it is of great value in any such study as this. For instance, a record like the following is a distinct addition to the ordinary meagre report: "The rain from this storm fell from cumulus clouds without the cirro-stratus cover, though to the north of here the latter cloud was easily seen, especially after the storm had passed, when it rolled back in a thick layer, growing thinner as it spread out." Such a record as that from Longmeadow, Mass., on July 29, describing the growth and advance of the squall-cloud and the "general stirring around of the masses this way and that," while ragged pieces of cloud formed beneath and rose up into the mass, is of much value, as is also such a one as that from Newburyport, Mass., on August 31, which speaks of filaments on the lower edge of the cloud moving up into the main body of it.

One of the features most often noted in the reports is the dividing of the storm as it reached the observer; in fact there was hardly a thunderstorm during the summer which did not seem to divide at one or more stations. Although the records of this occurrence are quite numerous, it is impossible to make any definite statement with regard to the fact. It is known that these storms very often vary in intensity in different parts of their course, and when an observer happens to be in one of these regions of less rainfall he will probably say that the storm divided, leaving him in the middle of two districts of heavy rainfall. An interesting point in this connection is noted on July 18, when four stations in a southwest-northeast line, the direction of the storm's movement, reported a dividing of the clouds. This seems to show that such breaks may retain their position in the mass of the moving storm, and may travel for some distance with it; in this case the distance was fifty miles. Further and fuller records are needed to determine this point. In this connection, also, the records from Newburyport on July 30 are interesting. The observer says that the storm seemed to travel in two sections; one section with heavy thunder and heavy rain, and the other with heavier thunder and less rain, but remarks that probably there was no space between the sections, a fresh wind then prevailing very likely bringing some of the rain from the more distant section. On August 31, Mr. Clayton, of Blue Hill, saw a distinct gap in the approaching storm, which seemed free from rainfall, though it was apparently raining heavily on both sides. The gap gradually closed up and the rain advanced with a continuous front.

The supposed influence of the tides on the direction of the storms is brought out in several reports, notably on July 22 (Nantucket, Mass.) and on August 6

(Vineyard Haven, Mass.), which declare that with a tide running east the storms move east, and vice versa. The belief that rivers and the topography of the land have an influence on the direction of movement of thunderstorms is widespread, and many records speak of such instances. South Orleans, Mass., on July 30, says that that district has materially less rainfall than the other parts of the Cape, a fact which is accounted for by the "configuration of the physical features." In spite of this very general opinion it seems difficult to believe that such large disturbances as thunderstorms, whose convectional ascent is high enough to bring snow and hail in summer, can be affected by slight depressions or elevations of the earth's surface. There are many other points in connection with these storms of which more careful record might well be kept, such, *e. g.*, as the temperature of the rain (noted at Mansfield Depot, Conn., July 26 and 29), the structure of hailstones (Solon, Me., August 11, "Snow inside and ice outside"), etc.

Conclusion. The results of the investigation of 1886, while in many ways rather indefinite, are still worthy of note. The main results of the study of the previous year have been again emphasized: the general features; the excess in the later afternoon hours; the fact that most of our New England storms come to us ready-made from west of our district, and that they are not distributed evenly through the summer, but appear in considerable numbers for a few days, and then disappear for a time. In regard to the dependence of our thunderstorms on the larger atmospheric disturbances or cyclonic storms, the results of 1886 in New England tend to show that this dependence, although marked, is not so striking or so definite as many of the foreign results have shown it to be in Europe. Over 60 per cent. of the thunderstorms of 1886 occurred in the southern or southwestern quadrant of cyclonic areas, but so far there have been found no very exact means of distinguishing those days on which thunderstorms occurred from those when well-developed low pressure centres passed north of New England without bringing local storms. Some of the best developed storms of the year occurred under anticyclonic conditions. The effort that has been made in this work, to come to some more definite basis for prediction of thunderstorms in New England, has, therefore, not been successful.

THUNDERSTORMS OF 1887. JANUARY TO JUNE.

January. The first reports in the year 1887 came on January 24. At 7 A. M. of that day a cyclonic area, which had moved northeast across the Lakes, was central north of New England, and the weather over the district was rainy, with south and southwest winds. A group of stations in eastern Massachusetts report thunder between 1 and 2 P. M. in a general rain, and three stations in northeastern Rhode Island report thunder and lightning between 12 M. and 1 P. M.

February. On February 18, at 7 P. M., a cyclonic area was central over Lake Huron, and during the day and night moved northeast, bringing northeast and east winds to New England, with rain and snow. A thunderstorm entered western Massachusetts and Connecticut about 7 P. M., and moved east, reaching the coast between 11 P. M. and midnight. North of Massachusetts it had little force, but towards the southern coast it was violent, the thunder and lightning being accompanied by heavy rain and strong, warm, southeast winds. The temperature rose through the night, and reached a maximum about noon of February 19, when the cyclonic centre was below Quebec. The precipitation of the storm was between 1.50 and 2.00 inches; its velocity about 30 miles an hour.

March. There are no reports for this month.

April. On April 18 there is one report of thunder from New Bedford at 9.10 P. M., and several notes of lightning during the evening. At 7 A. M. there was a cyclonic storm central in Kentucky, which moved to the east during the day, passing south of New England and bringing northeast winds and snow. April 23 was characterized at 7 A. M. by generally cloudy weather and southerly winds. a cyclonic area being central over the Upper Lakes Setauket, N. Y., reports a thunderstorm at 9.30 P. M. The following day brought cloudy weather and variable winds, with a moderate low pressure centre off the New England coast. There is one report, from Bristol, R. I., of thunder at 10 P. M. On April 28 there was a cyclone central over the Lakes, which brought westerly winds and rain. Two reports mention a thunderstorm in the afternoon. On April 29 the centre moved across Vermont and Massachusetts, and northeast across Maine. New England had rain and strong northeast, north and northwest winds. Several thunderstorms occurred between 2 and 5 P. M. in Massachusetts, but their movement cannot be clearly made out.

May. On May 6 there was a moderate cyclonic area in the Mississippi Valley; New England had pressure above the normal, cloudy weather, and northeast winds, Three reports from eastern Massachusetts mention thunder and rain between 1 and 3 P. M. May 10 sends one report, from Berlin Mills, N. H., of a thunderstorm from 6.30 to 8 P. M. The pressure was above normal, with light southerly winds and clear weather. On May 18 the pressure was slightly below the normal, with no distinct centre. New England had light variable winds and cloudy weather. Concord, N. H., reports thunder and lightning from 11.20 to 12 P.M. May 25 had a cyclonic area north of the Lakes, bringing a sultry day, with southerly winds, and considerable rain. The reports speak of thunder in Vermont and New Hampshire between 3 and 5 P.M. In New Hampshire some damage was done by hail. May 26 had a vague cyclonic area in Maine, and cloudy weather, with southwest winds, and rain in the afternoon. There are a few reports of thunder from northern Vermont and southern New Hampshire between 4.30 and 6.30 P.M., and some of lightning, all in connection with a general rain. Concord, N. Y., notes: "Thunder-showers all day; 7.30 P.M., terrific thunder; lightning intense; one continued flash." At Brattleboro, Vt., rain began at 5, and the barometer fell .10 inch from 4.30 to 5. Hail fell of the size of peas." "At 7.15 P.M. the whole eastern sky was of inky hue, and remained so for thirty minutes, with vivid lightning and rumbling distant thunder in that direction. The anemoscope on Wautastiquit Mt. for some time pointed directly east, and did not veer two points; the wind at base of mountain meantime was west-northwest. At 8 P.M., when darkness set in, the wind on mountain was northeast, thirty-five miles an hour; at base northwest." On May 27 the pressure was even over New England at about 29.70 inches, and the weather cloudy. Thunder with rain is reported in Vermont and New Hampshire in the afternoon. There are a few other reports for different hours. On this day heavy, massive cumulus clouds, with high, forward-reaching cirrus overflow, were seen from Cambridge, moving east near the northern horizon.

THUNDERSTORMS OF 1887. JUNE TO SEPTEMBER.

June. The month was as a whole cooler than usual, and may be divided into eight intervals of alternately wet and dry weather, corresponding to the barometric changes of the weather maps.

June 1. The approach of a cyclonic storm in the Mississippi Valley caused cloudiness and rain, with easterly winds, on the first day of the month.

June 2. The conditions were similar to those on the preceding day, with the cyclonic centre over the lower Lakes. A storm was reported on Long Island at midnight on June 1, and from there it moved northeast across eastern Connecticut and eastern Massachusetts, reaching the sea after 4 A.M., with a velocity of about 40 miles an hour. Besides this there were some other reports. The barograph at Blue Hill showed no change during the storm.

June 3. The cyclonic storm of June 2 had moved northeast and was central over Montreal and Rockliffe at 7 A. M., New England having southerly winds and cloudy weather. During the day the centre moved across New England. A distinct storm occurred in eastern Massachusetts and Rhode Island and in southern New Hampshire, between 1 and 2.30 P. M., beginning about fifty miles from the coast, and moving to the east with a velocity of 20 miles an hour. Mr. Clayton reports: "There was a number of showers not attended by thunder, which followed the first shower. The cumulus of the storm had an overflow appearance at top, but no cirrus fringe was visible." Newburyport: "1.45 P. M., temperature 67°; 2 P. M., distinct cool breeze; temperature 60°." Georgetown, Mass.: "1.45 P. M., brisk northwest wind, cool gust for five minutes, with very low running black cloud." West Medway, Mass.: "Three distinct showers visible, one in northwest; one in northeast; one in southeast." There are other reports from Maine between 11 A. M. and 2 P. M. and also some from Vermont. Newburyport, Mass., notes further: "2.06, squall-cloud in east forming rapidly and moving upward into the heavy cumulus; 2.13, squall-cloud in east-northeast still forming and moving as at 2.06."

June 4–6. The distribution of pressure was slightly below the normal on June 4, and on June 5 and 6 rose above the normal; the weather was cloudy, with variable winds. On June 6 there are two reports of thunder; one from Connecticut speaks of hail of the size of walnuts.

June 7. The pressure was normal, and the weather fair, with variable winds. Wallingford, Conn., reports thunder at midnight.

June 8. An area of low pressure had developed over the lower St. Lawrence, but New England had normal pressure, fair weather and variable winds. A few scattered reports mention rain accompanied by thunder in the afternoon.

June 9. There was a slight deficiency of pressure off the coast, and showers occurred at several stations, with westerly winds. Three small thunderstorms are reported during the early afternoon (Plate X, Fig. 17). One in southwestern Connecticut moved southeast across Long Island, lasting an hour; the second in southeastern Connecticut, which also moved to the southeast, lasting an hour and a half; the third in Rhode Island and southeastern Massachusetts, which lasted an hour and also moved southeast. Taunton, Mass., notes a change in temperature from 83° at 11.30 A. M. to 62° at 1.30 P. M. Newport, R. I.: "Thunderstorms rarely pass over this place; they seem to divide about the head of Narragansett Bay, sending one division to follow the eastern shore, while the other passes over the land west of the Bay. In fact the storms seem to avoid the water and follow the land." Setauket, N. Y.: "Thundershowers commenced at 3.35 P. M., wind northeast; thermometer at once commenced to fall, and wind shifted to east." Several stations in western Connecticut report thunder between 4 and 7 P. M. Bridgeport, Conn., notes that the storm moved from southeast to southwest, and then at 6 P. M. it was calm; at 6.07 a strong southeast wind came, and at 6.34 rain began.

June 10. A moderate cyclonic area was off the south Atlantic coast, with a high pressure area over the Lakes. New England had northeast winds and cloudy weather.

June 11–15. Fair weather accompanied the occurrence of generally high pressure and northerly winds during this period, and no thunderstorms are reported.

June 16. An area of low pressure developed in Canada during the night of June 15, and on June 16 moved across the Gulf of St. Lawrence, bringing southeast winds and cloudy or rainy weather to New England. A storm of moderate extent developed in western Vermont about 6 P. M., and moved through southern New Hampshire, apparently disappearing after 8.30 P. M. before reaching the sea. The rate of advance was over 50 miles an hour. At Keene, N. H., the thermometer fell from 76° at 8.20 to 68° at 8.30. The storm was very moderate, and the only marked feature of it was the squall-wind, which was violent in many places. There are a few other scattering reports in the afternoon from southern New England.

June 17. The cyclonic centre still lay over the Gulf of St. Lawrence, and another was over the upper Lakes; New England had northerly winds and fair or cloudy weather. There are four scattered reports of thunder on this day.

June 18. An ill-defined area of low pressure was central over Pennsylvania, and New England had northeast winds and cloudy weather. Three reports mention thunder at 7 A. M.

June 19. The barometric conditions were very unsettled, a moderate low pressure area being over the Gulf of St. Lawrence and another over the Lakes. New England had clear weather and variable winds. A storm of small extent appeared in western Connecticut at 3.30 P. M. and moved southeast, fading away soon after crossing the Connecticut River, at about 5.30. Rate of advance 25 miles an hour. Only three observers report the squall-wind preceding the rain; in all the other cases the wind either remained unchanged in direction, or it was calm.

June 20. The pressure over the district was very even at about 29.90 inches; weather cloudy, and winds variable. There is one report of thunder and rain in the early morning, at Great Barrington, Mass.

June 21. A better defined cyclonic storm than any of its predecessors appeared this day over the Lakes and moved northeastward over Canada, giving plentiful rains and several thunderstorms to New England till the night of June 23. At 7 A. M. of June 21 the weather was fair, with easterly winds. There are a great number of reports on this day, but it is impossible to separate the various storms very clearly. One occurred in western Connecticut between 4.30 and 5.30 A. M., and had a distinct advance to the east. Western Massachusetts sends most of its reports between 8 A. M. and 1 P. M., and there are a number in the later afternoon also; northern Vermont sends a few in the early afternoon, and southern New Hampshire between 10 A. M. and 2 P. M. The day is generally described as foggy, "muggy" and rainy. The temperature and the direction of the wind remained unchanged during the storm in most places.

June 22. The cyclonic area of June 21 had gradually spread over the Lakes and New England, and a secondary centre of low pressure was over the lower St. Lawrence. The weather was cloudy and foggy, as on the preceding day. Five storms can be defined for this day. The first one is noted in eastern Massachusetts at 4.30 A. M. It extended south well into Connecticut, moved northeast across Massachusetts into New Hampshire and reached a few stations in Maine after 8 A. M. Eastern Connecticut and Massachusetts were not touched. The rate of movement was about 35 miles an hour. New Concord, N. Y., notes: "Brisk wind,—a regular whirlwind,—lasted two or three minutes." The second storm (Plate X, Fig. 19) began in central Connecticut about 7.30 A. M. and moved northeast across eastern Massachusetts and into southern New Hampshire, reaching the sea at 11 A. M. The stations on the coast, however, report "no rain," and it seems that the rainfall ceased about 10.30, some few miles from the coast. The last report of rain in Massachusetts is from Winchester. The velocity of the storm's advance was 45 miles an hour. Troy, N. H., reports: "Our place at or near Monadnock Mt. is hard to describe. Showers swing around the mountain in all directions." The even temperatures through the day, with continual showers, are generally noted. Princeton, Mass., notes: "Difficult to trace the progress of the storm, as rain was falling some time before thunder was heard, an east fog prevailing all the forenoon, though much lighter after the thunderstorm." Harvard, Mass.: "Through this storm of one and a half hours the wind has boxed the compass twice from south to east."

The third distinctly moving storm was one of small extent in western Connecticut, which moved northeast, but did not enter Massachusetts. It lasted an hour and a half, moving about 50 miles an hour. During the afternoon there are numerous reports from all the States except Rhode Island, but no movement of the storms can be made out. Keene, N. H., reports: "The day was wholly rainy or cloudy, with three distinctly marked showers with moderate thunder and lightning. The outlines of the showers obscured by the general rain or cloudiness. During the last shower, at its hardest interval, wind blew a brisk gale, whirling the vane to all points, mostly from southeast to southwest."

The fourth storm occurred over the same district as the third above mentioned, moving northeast across eastern Connecticut between 5 and 6 P. M. The fifth began about 6 P. M. at Concord, Sudbury and Framingham, Mass., and moved east, spreading out as it advanced until it extended from Newburyport on the north to Taunton on the south. It went off to sea after 7.30 P. M., which shows its velocity to have been about 20 miles an hour. Lightning struck in Lynn. Newburyport notes: "In this storm it seemed as though the centre of electrical energy was frequently tranferred from one place to another." Blue Hill: "Dense fog enveloped the station until 9 A. M., when it lifted, forming a dense layer of stratus which partially broke away at noon, showing cirro-cumulus above, moving from southwest; at 1 P. M. moving from S. 25° W., and at 2 P. M. from S. 75° W. At 3 P. M. the sky was overcast with stratus, and dense fog enveloped the summit after 4 P. M. except for a short time immediately after the thunderstorm." During the late evening there are a number of reports, but no distinct storm can be made out.

June 23. The depression still hung over the Lakes, and New England had continued cloudy weather or rain, with southerly winds. Three reports from near the coast of Massachusetts mention thunder.

June 24. From June 24 to June 30 the weather was generally fair, and the temperature rose rapidly towards the end of this period. The pressure over New England on June 24 was even, at about 29.80 inches; wind southerly, and weather cloudy. There are a few reports of thunder in the afternoon.

June 25. The pressure was above the normal, wind northwest, and weather fair. Hyannis, Mass., reports thunder in the afternoon, but no rain.

June 26–30. Similar conditions of pressure and fair weather with variable winds prevailed on these days. Four stations in southern Connecticut note thunder about 4 P. M. on June 26, and two note thunder on June 30.

July. The month as a whole was unusually warm and wet, and consequently sultry and oppressive, and thunderstorms were frequent and severe.

July 1. The month opened with pressure above the normal, clear hot weather and westerly winds. In southeastern Massachusetts a small storm developed at 3.30 P. M. Its velocity was 20 miles an hour. A second storm of slight extent moved east in eastern Massachusetts between 6 and 7 P. M., accompanied by very little rain, but thunder was very generally heard throughout the eastern part of the State. West Medway, Mass., reports: "There was no change in wind or temperature. Cloud of a peculiar shape, looking like a gigantic mushroom. The movement of the outside edges was circular in the direction of the hands of a clock." Blue Hill: "Storm formed from a small cloud just south of us, and moved toward east. At 6 P. M. the top of the thunder-cloud spread out like a mushroom, and was drifting from N. 60° W., while the base of the cloud was drifting from S. 70° W." South Sudbury, Mass.: "Southern edge of cirro-stratus cloud was exactly overhead at 5.30, and as the storm moved southeast the cloud slowly moved west." At Taunton the rainfall was very heavy and some damage was done by lightning." Westford Centre: "Storm cumulus gradually spreading out into a fan-shaped cirro-stratus with cumuli beneath." The temperature was reduced several degrees by the storm, but rose after it had passed.

July 2. A moderate area of low pressure hung over the lower St. Lawrence, but New England had normal pressure, very high temperature, and fair weather, with westerly winds. Four storms are reported on this day. The first occurred in southeastern New Hampshire and northeastern Massachusetts about 2.30 P. M., although thunder was heard further to the west at 12 M. It was confined to a few stations near the coast. The second came in central Connecticut between 2 and 3 P. M., and was also confined to a small number of stations. At Kensington, N. H., the temperature fell from 101° at 12 M. to 82° at 1.30 P. M; rain began at 1.25. Seabrook, N. H., reports a fall of 17°. Stoddard, N. H., notes.: "Clouds rising in west separate; one takes to the north; other southwest." Benson, Vt.: "Temperature fell 8° in four minutes." Newport Centre, Vt.: "Shower divided, going to south and southeast." Newburyport, Mass., reports: "Distinct cool breeze from the thunderstorm, but no rain. Thunderstorms seem to divide on approaching this locality, as nearly all storms pass either north or southwest. We hardly ever have a storm pass directly overhead. This storm seemed to emanate from an overgrown cumulus cloud, that moved from north-northwest to east in a narrow compass and formed the boundaries of the storm. There was an overflow of cirrus somewhat in advance all the time, and extending somewhat toward the southeast from the cumulus." A third storm seems to have occurred in Vermont between 3 and 6 P. M., though the reports are indefinite, and a number of records from central Massachusetts speak of rain and thunder during the same hours. Lowell reports: "Wind has been west all day, but changed to east about 1.45 P. M. before shower appeared on the horizon. Advance cloud broken, but the southern edge of the cloud sharply defined." Lightning struck in Lowell, Mass., and Manchester, N. H. Between 8 and 10. P. M. a number of stations in Maine report thunder, but only a few note rainfall. Paris, Me., says: "This storm was only a distant one, and seemed to follow the course of the Androscoggin River, from twenty to thirty miles distant from this place." West Milan, N. H.: "Thunder-clouds arose in all directions the afternoon of July 2, and gave every appearance of heavy showers. There seemed to be as many as six well defined small showers in progress at the same time, with clear sky and sunshine between." Blue Hill: "At 2 P. M., the top of a shower-cloud in north rose 9° above horizon. At 3 P. M. the top of a second shower-cloud in west rose 3° above horizon."

July 3. The pressure over New England was above the normal, while a moderate cyclonic area still hung in the northeast. The weather was fair, with westerly winds. One distinct storm occurred, beside a number of scattered reports in the early and late afternoon. Farmington, N.H., reports: "The storm came on with great rapidity after it began to cloud up. Rain fell in large drops that seemed almost like hail." Bellows Falls, Vt.: "An afternoon of thunderstorms in all directions, none of which passed over us." Vernon, Vt.: "Thunder heard from 12 M. to 6 P. M.; heat very oppressive." Lawrence, Mass.: "Shower seemed to have divided, and passed mainly to southwest and northeast of this city." Newburyport: "1.55 P. M., southern edge of cirrus overflow, moving from north-northwest, reaches the sun. Clear space between 10° and 30° altitude northwest, under the cirrus; 2.05, light lower cumulus forming in clear space under cirrus in northwest and west, and moving from southwest."

The first storm with distinct progression occurred in central Vermont and southern and northeastern New Hampshire, between 2.30 and 5 P. M. First noted at a few stations only, it gradually spread out well over southern New Hampshire, and then again contracted its area on the coast. Thunder was heard as far south as Taunton, Mass., but no rain fell south of Bedford, Mass., where a few drops only are noted. The rate of advance was over 50 miles an hour. At Rochester, N. H., the wind preceding the rain brought a rise in temperature of 2° over that of the east wind preceding. At Bedford, Mass., the wind changed from east, light, to northeast, high, after the rain had stopped. Blue Hill reports: "At 4 P.M., cirro-stratus overflow from storm in northwest extended to zenith. At 5 P.M. covered about six tenths of sky and at 6 P.M. covered all sky except one tenth." Concord, Mass., notes a fall in temperature of 17°. At Lowell, Mass., the wind was northeast before the storm, and increased in strength just before rain began. Milton, Mass.: "Observed the nucleus of the storm to the north. A majestic anvil-shaped or festoon cloud, which had risen in the distant north, by 4.30 passed the zenith, and at 5.30 P.M. was recruited by fresh accessions of cumuli." At North Billerica, Mass., and at Manchester, N. H., the storm was very heavy and much damage was done by hail and lightning, but in most places the storm was moderate. Newtonville, Mass., notes: "Wind changes from southeast to northeast. Temperature drops from 98° to 81°." Newburyport, Mass.: "Storm divided into two portions, the one to the northwest travelled fastest and went into north-northeast; the other more slowly into south-southeast." At Tewksbury the temperature fell 10° in twenty minutes; at Andover, N. H., 10° in an hour; at Pomfret, Vt., 20° in twenty minutes. Charlotte, Vt., reports a succession of distinct short showers during the day.

July 4. The Fourth of July was fair and hot, with westerly wind, and pressure above the normal, though a faint cyclonic disturbance was approaching over the upper Lakes. There are two reports of thunder and rain. The observer at Newtonville, Mass., makes the following note: "Almost every Fourth of July evening there is a shower of rain, with no thunder or lightning. It would seem as if the explosion of so much powder in the air might have something to do with it."

July 5. The cyclonic centre of July 4 had moved further east, bringing southerly winds and cloudy weather to New England. A few scattered reports mention thunder in the afternoon, and Lyndon, Me., had a succession of thunderstorms.

July 6. The cyclonic centre was moving slowly eastward over Canada, and New England had rain with southerly winds, the heat continuing excessive. Etna and Waterville, Me., report a storm about noon. A distinct storm (Plate X, Fig 20) began in western Vermont, Massachusetts and Connecticut about 2 P.M., and moved east across New Hampshire into Maine, where it is well reported till 7 P.M., when it evidently dissipated without reaching the sea. The rate of movement for this portion was 35 miles an hour. In Massachusetts there are no reports after 3 P.M., so that there the storm evidently died away in the western part of the State. In Connecticut, on the other hand, it moved southeast pretty well across the State, fading away at 6 P.M., so that this is a case of a distinct break in the storm front fifty miles in width. Solon, Me., reports a fall in temperature of 10° in fifteen minutes during the rain. At Alstead, N. H., the squall-wind reached a hurricane force and blew down many trees in its path, while rain fell "in bodies of water." Lightning struck at Concord and other places. Benson, Vt., reports: "Apparently the storm divided and went to north and south of this place." Bellows Falls: "The wind was in every point of the compass at different periods of the shower." Warren, Conn.: "The shower started in the northwest, and seemed to split, part going north and part a little south of us." A number of reports from the western border of the district mention thunder and rain in the early evening.

July 7. The cyclonic centre had reached the lower St. Lawrence, and New England had generally fair weather and southwest winds. A few stations in Connecticut mention thunder in the afternoon.

July 8. The cyclonic depression still hung over the Gulf, and clear weather, with variable winds, prevailed over New England. Hortonville, Vt., reports thunder at 1.45 P. M.

July 9. Another moderate cyclone was central over the upper Lakes at 7 A.M.; the weather was fair and wind variable. Between 10 A. M. and noon there was a good number of reports from northern Massachusetts and southern New Hampshire, apparently of two storms occurring in close connection, so that a definite charting is impossible, though there seems to have been a distinct movement to the east. Besides these disturbances there are a number of reports from other parts of the district of storms during the afternoon, of which, however, no progression can be made out. On the whole this afternoon was one of wide-spread thunderstorm occurrence. Among the notes of interest are the following: Peterboro, N. H.: "Under current of wind, west; upper, south-east." Quincy, N. H.: "Clouds moving east to west." West Milan, N. H.: "Southeast wind seemed to prevail, but during the shower the wind seemed to change from southeast to west." At Keene a "hurricane" wind destroyed a barn and broke down some trees. A newspaper account reads as follows: "Two violent currents of wind, one blowing from south to north and the other from west to east, appear to have come together at a point just southwest of the Driving Park, causing a result in some respects similar to the waterspout sometimes encountered at sea. The result was destruction to almost everything that stood in the way of this mighty but narrow combination of winds." Hail fell over a small area. Springfield, Vt., notes: "Cloud formed in west; in less than ten minutes crossed this territory, moving northeast." Vernon, Vt.: "Very sultry; heat very oppressive." Somerville, Mass.: "Wind veered (from east) to southeast during the shower, and (after it) was again east." Spencer, Mass.: "11.30, wind southeast; wind southwest up above the clouds." Cornwall, Conn.: "The shower seems to have formed in this locality." Keene, N. H.: "The wind has been from south to southeast during all these storms."

July 10. The cyclonic centre passed over New England during the day, being central north of Montreal at 7 A. M., and the weather was cloudy and showery, with southeast winds. Newburyport, Mass., reports: "3 P. M., cirrus overflow plainly visible through broken cumulus extending to within 60° of northeastern and eastern horizon; 3.05, cirrus overflow extended to 40° above northeastern and eastern horizon; cirrus moving from southwest; cumulus from west-southwest; 3.20, edge of cirrus overflow 15° above northeastern horizon. 4.30, upper edge of cirrus overflow in rear of storm 15° altitude, in north and east; 45° in northeast; upper edge of cumulus 12° altitude in north and east; 25° in east." Nahant: "In the morning a fog, which remained about the water till after noon. At 12 the wind about southeast, with intensely cold east breeze low down on water. Clouds overhead moving on west wind." Between 1.30 and 3.30 there was a storm in western Connecticut (Plate X, Fig. 21), moving southeast but not reaching across the State or into Long Island. Its velocity was 30 miles an hour. Bethlehem reports: "2.20, shower has split, part south and part north; 2.35, the two showers have met again in the east." Naugatuck: "Storm followed by cold wave." South Canaan: "A very fresh breeze at 1.30 P. M.; a slight dash of rain, thunder very faintly heard; although the shower was nearly due south the wind quite steadily blew from northeast, changing to north, where it remains at 4.30, with a fresh breeze."

Another storm (Plate X, Fig. 21) developed in eastern Massachusetts about 1.30 P. M. and moved east, reaching the sea about 3 P. M. The first report is from Spencer, of rain at 1.18 P. M. It extended north to a few stations in New Hampshire and south as far as Taunton. The convex front of the storm is clearly marked. Its rate of movement was about 25 miles an hour. Extracts from the records follow. Worcester: "At 1 P. M. clouds commenced to form in southwest and commenced to rain at 1.20; wind light in southwest. Thunder first heard in southwest at 1.26, and wind commenced to blow hard at 1.30. Rained hardest at 1.32, and stopped at 1.40. Thunder last heard at 1.50 from southwest. At noon thermometer stood 81°, and at 1.35 it had fallen to 77°." Foxboro: "Showery dog-day weather all the morning." Haverhill: "For an hour before rain began three tiers of clouds were plainly visible; the lower sailing swiftly toward the northwest; the middle moving rapidly from the southwest; the upper moving very slowly east. Rain first appeared in three small distinct areas, which enlarged till they coalesced and embraced the whole visible region." Malden: "Rapid rush of wind accompanied by rain." Newburyport: "Heavy squall of rain and wind. The rainfall was very great in so short a time; it came down literally in torrents for fifteen minutes." Blue Hill: "The thunder-cloud did not have a well-defined cirrus overflow in front, but the cirrus overflow was quite well marked in the rear of the storm, and was moving S. 55° W. Maximum velocity of wind, 42 miles per hour at 2.23 P. M. (rain began 2. 10)." Spencer: "1.15, dark clouds coming up fast in west; 1.20, cooler wind coming in gusts; 2. 05, a very heavy wind-squall, with gray ragged clouds." West Medway: "Shower made up near here, and after it passed over there was heavy thunder in the east." At Dedham the temperature was 82° at 2 P. M. and 70° at 2.15 P. M. The special characteristics of this storm were the violent squall-wind, the heavy rainfall, and the distinct cooling by the northwest winds after it. Scattered reports from other parts of the district mention frequent storms during the day.

July 11. At 7 A. M. the cyclonic centre was off the coast of Maine and during the day moved to the east off to sea. The weather during the day was generally cool and fair; the wind northwest. Five reports of thunder came on this day. Newtonville, Mass., reports: "4.50 P. M., away on the northeastern horizon, is a curious cloud formation; black and threatening it looks, but not spread out in a bank like usual thunder-clouds, but long and rolled up; 5 P. M., the cloud has spread itself out, and lies over the whole eastern horizon from north to south. The wind, which has been southwest for two days, now changes to northwest, and blows the cloud mass on, still keeping its rolled up crescent form. 5.10 P. M., the mass is breaking. Most of the clouds are driven rapidly southwest, while many remain stationary in northeast."

July 12. The pressure was near the normal; the weather warm and clear, and wind southerly.

July 13. A moderate cyclonic area hung over the lower St. Lawrence; New England had fair or cloudy weather and variable winds. There are two reports of thunder.

July 14. The approach of an anticyclone over the Lakes brought clear weather, northwest wind and more moderate temperature. Moose River, Me., reports a severe thunderstorm at 8 P. M.

July 15. The conditions were similar to those on July 14. Newburyport, Mass., reports thunder several times during the day.

July 16. A moderate cyclonic disturbance was approaching over the upper Lakes; the pressure over New England was near the normal; the weather cloudy, with light southerly winds. Thunder was generally reported in Massachusetts between 10 and 11 P. M., but rain fell in connection with it near the coast only, and in northeastern Massachusetts. The thunder-clouds moved distinctly to the east across the state. The lightning was very brilliant and the flashes very frequent; at several stations at the rate of a flash every second. Only one report mentions damage by lightning (Malden), and the rain was light except at Nahant and Winthrop, where it was very heavy. Blue Hill notes: "The streaks and flashes of lightning were very vivid to the northeast from 10.30 to 12 P. M." Spencer: "I noticed the lightning in balls of fire commence at the northeast and go to the south. It went so every time with one exception." At Winthrop the "severest thunder ever experienced in the memory of the oldest inhabitant" is reported. Kingston reports: "A cloud lay from northwest around to southwest, in the highest part about 45°; a position of a thunderstorm not seen once in a generation from this place."

July 17. The cyclonic centre moved during the day from Rockliffe southeast across New York State. The weather in New England was sultry, cloudy and rainy, with variable winds. A storm developed in Connecticut, east of the Connecticut River, about 2.30 P. M., and moved northeast, extending from central Massachusetts on the north to the Sound on the south. At 1 P. M. another storm moved southeast from southeastern New Hampshire across Massachusetts to the sea, reaching the coast about 4 P. M. In eastern Massachusetts the two storms became confused and seemed to unite, but in the earlier part of their course they were distinct. The former moved about 35 miles an hour, and the latter 20 miles. This is an interesting and unusual case, the two storms occurring at the same time, near together, and yet differing in direction and rate of movement. At Dalton, Mass., the temperature fell from 84° at 1.30 to 72° at 2 P. M., and rose again to 80° at 6 P. M. At Globe Village it fell from 95° at 2.10 to 82° at 3.30; at West Medway from 84° at 3.30 to 72° at 4.30. Hyannis Port notes: "3.30, clouds rising against wind, which veered suddenly from southeast to northwest." At Mansfield, Mass., a dead calm prevailed during the shower. Quinapoxet: "This storm came from the northwest against a warm easterly current, which continued while the storm was passing southeast. The rainfall from this storm was heavy." In Connecticut and Rhode Island the rainfall was generally light. Newport, R. I., notes: "The rain-cloud had no definite edge as it advanced from northwest, but gradually spread over the sky, which was covered by thin clouds before, advancing against the observed wind, which continued south." At Colchester, Conn., the rainfall was very heavy and the lightning did some damage; at Middletown, also, much rain fell, while within four miles from the latter place the roads were left dusty. Turnerville: "It was nearly a calm at commencement of storm; the wind veered from northwest to southwest."

July 18. At 7 A. M. the cyclonic storm was central in northern Massachusetts, and during the day moved southwest across Connecticut, New Jersey, Delaware and Maryland. The weather continued cloudy and rainy, with variable winds. The reports from Connecticut, though unfortunately scattered, seem to show a distinct storm moving south from Massachusetts across eastern Connecticut between 1 and 3 P. M., the lines marking the rain-front running nearly east and west. This is the first case of such a direction of thunderstorm movement charted in this district, and the absence of more detailed reports is all the more to be regretted on that account. At the time this storm occurred the cyclonic centre was in southern Delaware. Brooklyn, Conn., reports: "Storm started in northwest, but other clouds joined in and seemed to back south." Durham Centre: "Before it (the shower) had passed the wind suddenly shifted to north and east, with very heavy rain. Apparently the northern shower had reached us instead of going off northeast as I had supposed; it afterward passed off to south and southeast." Ekonk, Conn.: "Wind came out of east just as it began to rain." Turnerville: "2.40, wind coming out of northeast and beginning to rain." The rate of movement was about 25 miles an hour.

July 19. The pressure rose above the normal, the cyclonic area gradually fading away to the south. The weather was fair or cloudy, with northerly winds. There is one report of thunder and light rain in the afternoon, from Lunenburg, Mass.

July 20. The pressure remained high and the weather fair, with southerly winds.

July 21. A cyclone central in Illinois on this day, and later passing over the Lakes and Canada, caused a wet period from July 21 to July 24. On July 21 the weather was cloudy or rainy, with southerly winds, but the pressure still remained high. There is one report on this day.

July 22. The cyclonic centre had reached the lower Lakes, and New England had rain, with southeast winds. There are several scattered reports which speak of very heavy rain during the day, with thunder in the afternoon, but no lightning.

July 23. The storm centre was over the lower St. Lawrence, and during the day disappeared in Canada. The weather continued cloudy and rainy, with southerly winds. There are some scattering reports in the early morning. Between 1 and 2.30 P. M. a small storm developed in northeastern Massachusetts, and moved northeast into southeastern New Hampshire. The rainfall was light, and extended to a few stations only. Concord, N. H., reports: "A circular storm this afternoon.

At 4, wind southeast; then northeast-north-northwest-west-southwest, and shower ends at 4.40; wind southeast." There is a good number of reports from western Massachusetts and Connecticut between 2 and 4 P. M., though no movement can be made out. A second distinct but moderate storm occurred in northeastern Massachusetts between 3 and 4.30 P. M., beginning east of Fitchburg and extending up into the northeastern corner of the state, without reaching New Hampshire. Its rate of movement was over 30 miles an hour.

July 24. The pressure was increasing under the influence of a high pressure area over the Lakes, the cyclonic centre having disappeared to the northeast, leaving variable winds and rain. A small narrow storm began in northeastern Connecticut at 1.30 P. M., and moved into central Massachusetts, disappearing at 4 P. M. in the neighborhood of Worcester. It moved a little less than thirty miles an hour, and was not more than ten miles wide. Amesbury, Mass., notes that "the rain advanced in a straight line." Amherst reports: "A heavy black cloud was seen to pass rapidly down the river course from the northwest. It was met by a strong southerly current of wind which seemed to break the cloud and change its direction, driving it directly over us." South Hadley: "This shower seemed to divide, the bulk of it going to the east on the north side of Mt. Holyoke, with a heavy funnel-shaped cloud, the bottom of which was below the mountain in Amherst."

July 25. The pressure was above the normal; the weather warm and generally fair, and the winds variable. In the afternoon several stations in Maine report rain and thunder, and there are a number of scattering reports from Vermont and New Hampshire. Barton Falls, Me., reports: "The heaviest storm I have seen for years. Never knew so much water to fall in same length of time, and at this season of year." South Monmouth, Me.: "This shower divided; part of it passed east and part southeast." A group of stations in southern Maine report a storm between 6 and 8 P. M., which had a slow but distinct movement to the east. North Turner reports a dividing of the storm; also Paris, directly to the west, which seems to show a continuance of the break as the storm moved on. Paris notes that that place was in the middle of the two divisions, and felt the edge of both.

July 26. The pressure was slightly below the normal and very even over the eastern United States; the weather fair and warm, with variable winds. There are a few reports from near the coast during the afternoon.

July 27. The conditions were similar on this day, the pressure continuing high and the weather fair and warm. In western Connecticut there was a very slight storm between 6 and 7.30 P. M., which had a movement to the east. Rain fell at two stations only, but thunder was heard at several places.

July 28. A moderate and indefinite area of low pressure developed over the lower Lakes, but the pressure over New England continued near the normal, with fair or cloudy weather, and warm southerly winds. The reports are mostly very scattered and no distinct movement can be made out. Berlin Mills, N. H., reports a storm on this day and notes: "The altitude of the storm was apparently great, as time between lightning and thunder, when directly overhead, was several seconds." Pine Plains, N. Y.: "The clouds in this storm grew from west-southwest to east, but the entire cloud-mass moved west to south." A few stations in central Maine report a small storm between 5 and 6 P. M., which moved distinctly to the east. Mayfield, Me., notes: "Cirrus clouds moving rapidly towards north for some ten or fifteen minutes; then suddenly the direction changes with no apparent change in the wind, and they begin to flow towards the zenith and rain begins after some five minutes of great commotion among the clouds." A well defined storm entered northwestern Vermont at 3 P. M., and moved to the southeast across New Hampshire and southern Maine, reaching the coast after 10 P. M. Its rate of movement was about 30 miles an hour. The lines marking the advance of the rain-front run northeast to southwest and show no convexity at the centre. At Grafton, N. H., the storm was very severe, with heavy peals of thunder and continuous lightning. Lightning struck in a good many places. Blue Hill reports lightning in a cloud on the northwestern horizon between 8 and 10 P. M. Lightning did some damage at Strafford, Vt. In general, however, the storm was a moderate one, the rainfall light, and no peculiar features are noted.

July 29. The pressure continued very even and slightly below the normal; the weather fair or cloudy, with westerly winds. A number of stations in New Hampshire and Maine report rain and thunder between 1 and 5 P. M. The thunder is generally reported as very heavy. Quincy, N. H., notes: "No wind; air cool at beginning but muggy at close." In Vermont there was heavy rainfall and some damage done by lightning, Charlotte reporting "a terrible storm." Vernon says: "Shower started from southwest and northwest, passed around to the east and seemed to meet southeast."

A distinct storm (Plate X, Fig. 18) with some peculiar features worthy of note, developed east of the Connecticut River in Massachusetts about 3 P. M. and moved southeast, extending in area and covering eastern Massachusetts, reaching the sea after 7 P. M. One station in northern Rhode Island felt the storm, and Truro, on Cape Cod, reports rain at 8. 25. The rate of advance was about 25 miles an hour. The storm was very severe on Cape Ann, and damage was done by lightning. College Hill reports that the wind veered to east from southwest just before the rain began, and the temperature fell 10° in half an hour, and notes: "Some of the shower was driven back over Arlington and West Medford at the rate of about two miles an hour, until about 6 o'clock, when the northwest wind drove the front of the storm southeast, and heavy rain fell for about fifteen minutes. The line of the storm's front was northeast-southwest, and went over College Hill. The ragged-edged clouds overhead were driven in all directions, but the heaviest rain was in Arlington, West Medford and beyond, and was slowly driven northwest, so that it reached the top of Arlington Heights, when the northwest wind drove it all back and we had a heavy storm at College Hill." East Walpole: "Very turbulent southern edge, appearing to be boiling up towards the zenith." An observer who happened to be on Mt. Holyoke reports that the storm was first observed over Amherst; then moved over the mountain to Holyoke; then back over the mountain to Amherst. Great Barrington reports: "Wind was quite strong from the south during the shower, but changed to the northwest before it was over." At Hanover the wind changed from southwest to north; also at Harvard and at Kingston. At Malden the wind varied continuously, changing from west to southeast, and working back around to the north. Newburyport sends a very interesting record: "Thunder was first heard northwest; just audible. The head of the storm was directly north-northwest of here and the centre northwest, moving very slowly northeast; at 4.15 it had moved into the north about the same distance off, and there hung for thirty minutes. The wind becoming northeast changed the course of the storm, bringing it towards us at 5.15 very rapidly, moving direct south. It continued, until the Merrimack River was reached, in a southerly direction, where it changed its course to southeast, following the river, passing southeast of us about two miles distant, with very heavy thunder, and moved along the coast until about eight miles south of us it again changed its course and again approached us from the south to within two miles, with vivid lightning and heavy thunder at 7.10. At 7.20 the storm retreats and moves rapidly towards the east. A curious feature of the storm was the direction taken. It moved from west all around the points of the compass to north, east, south, almost to southwest, and then approaching this place of observation to within three miles on northeast side and also on southeast, and we only had the edge of the storm as it went around us. At 7.20 it retreated, retracing its course." Blue Hill notes: "At 5.10 P. M. the clouds were very dark in north, and the cirrus overflow extended to zenith. There was also a sheet of cirro-stratus in south. 5.30, cirrus overflow covered the whole sky except a little in east, and a few stratus were moving beneath;

5.45, slight festoon appearance near zenith; no stratus; frequent thunder in north; bright sky in southwest; 6 P. M., pressure rising fast; a thin layer of stratus preceded thunderstorm; a portion of this stratus was watched and seen to be dissolving. At 6.30 P. M. a "cumulus roll" preceding the rain area of thunderstorm was very distinct and was arched, with the apex at the northeast of this station. Viewed sidewise it had the appearance of a broad curtain suspended from the stratus which preceded it. Viewed in front it had the appearance of a series of inverted terraces. The base of the "roll" was very low and its fibres seemed to be increasing in size, or forming. The wind was blowing towards the storm as it approached, but suddenly changed and blew from storm as the "roll" approached near zenith. Immediately in rear of "roll" were beautiful festoon cumuli. A few drops of rain fell as "roll" reached zenith. The "roll" presented no visible agitation." South Weymouth notes: "This storm commenced in the west and northwest, and moved around this place with a radius of six miles. When the cloud had passed to southeast a strong easterly current set in, which brought the cloud back to some extent, and it appeared to hang with about the same radius in Hingham in the east and portions of Abington in the south." Worcester also reports: "This storm seemed to turn and come back." Winchester notes: "The wind boxed the compass, and after the shower went back to its old corner,—southerly." Hingham reports: "The storm was passing away to the east, when at 6.45 the wind changed to east and brought it overhead. It then passed to south." The peculiar and noteworthy features of this remarkable storm are the well noted changes of wind during and after the storm,—in several cases the wind is noted as having boxed the compass,— and the fact that after the storm had passed it seemed to come back again from the east at several stations. As is seen in the extracts quoted above, College Hill, Holyoke, Newburyport, South Weymouth, Worcester and Hingham all note a return of the storm, with a change of wind. and Newburyport sends a minute account of its movements. The explanation of this sudden turn may be in the fact that the approach of a cyclonic centre over the Lakes began to affect the winds over parts of New England during the late afternoon, and with the change at these stations the storm locally moved backwards on its path for a short time. The backward movement may, however, be due to a backward growth faster than the advance to the east, for if the storm really moved to the west the lines marking the rain-front would probably show a change in their distance from one another, which they do not. It would be interesting to know whether other observers saw a similar change in direction, but the records contain no further mention of it. The time of the westward movement was 5.15 at Newburyport; 5.30 at College Hill; 5.40 at Worcester; 6.45 at Hingham; and at Holyoke and South Weymouth no time is given. The changes of wind are another noteworthy feature of this storm, and seem to indicate an inflowing circulation of winds around the storm area. The changes in the clouds where noted are also interesting.

Other reports, at different hours, come from Turnerville, Conn.: "Shower (3 P. M) seemed to divide; this one went to northeast and the other to the southwest." South Canaan, Conn.: "The wind veered suddenly from the south to a strong north wind." At Pine Plains, N. Y., "the wind changed from northwest before the storm to north-northwest, and the lowest layer of clouds moved from east to west, while the upper moved from west to east." Cornwall, Conn., notes: "Clouds overhead seem to have a circular motion around a centre nearly overhead." A return of a storm noted at Keene, N. H., between 3 and 5 P. M., probably a branch of the one in Massachusetts, is recorded as follows: "After moving to the southeast the storm appeared to turn towards the southwest again."

July 30. A moderate cyclonic area was over the Lakes; New England had pressure near the normal, easterly winds and fair weather. A few reports speak of thunderstorms. Ossipee, N. H., reports a shower in the northwest in the evening, which appeared stationary for some time, and Campton Village, to the northwest of Ossipee, mentions that the wind blew there from the east, that is, out from the rear of the storm. This is an interesting fact, and one not often noted. Pine Plains, N. Y., reports: "5.10 P. M., four layers of clouds: black cumuli; white cumuli; cirrus; and between the lower cumuli and the white, scud. This storm, instead of moving off for a distance, seemed to melt away. I think I first saw the storm when it was just forming."

July 31. A cyclonic depression hung over the Gulf of St. Lawrence, the weather in New England being cloudy, with southerly winds. A few scattering reports mention thunder and rain in the early morning. Between 1 and 4 P. M. Massachusetts and Connecticut were visited by wide-spread thunderstorm action, but the movement of the storm or storms can only be made out in the case of a small eastward moving storm in southeastern Massachusetts between 1.30 and 3 P. M., which left Plymouth and Kingston on the coast at 2.50, and reached North Truro, on the end of Cape Cod, at 3.45, travelling at the rate of 38 miles an hour. At Blue Hill the temperature fell from 80° at 2.15 P. M. to 71° at 3 P. M. Brockton reports: "Storm came from southwest and passed to a point north of east; a change in wind brought it back." Kingston notes: "It is next to an impossibility for a thunder-cloud to hold together over this place, and not once in fifty years has lightning struck this point." South Hingham: "Thundershowers formed four miles or so to the south of this station, about 2 P. M." South Weymouth also notes the formation of a storm in the south. Lightning did some damage at Springfield, Marblehead, Gloucester and Taunton; the rainfall was generally heavy and the wind strong. In Connecticut the storms were also severe. Durham Centre reports: "The peculiarity of this storm was the apparent lingering over this place. Two storms were noted as following one another, and the first one seemed to return on a northeast wind and join the second one coming from the west." Wind changes are noted as follows: "3 P. M., north; 3.15 P. M., east; 3.19, south; 3.30, west; 3.37, northeast." Enfield notes: "Wind changeable, following around with the shower." At Middletown the heaviest thunderstorm for years is noted, which seemed to come from every direction except northwest. The observer at Ferryville notes that a barn was struck by lightning and burned, and makes the significant record: "4.05, gone to fire." At Voluntown the temperature fell from 89° at 2.07 to 77° at 2.45. Pine Plains, N. Y., notes: "1.07 P. M., the weather-vane swerved around to east and then returned to southwest; rain began at 1.34."

August. August had an excess of cool and rainy weather, the temperature being low owing to the large amount of cloudy weather and to the frequency of northerly winds on the clear days.

August 1. The month opened with fair weather; westerly winds; a high temperature, and pressure slightly below the normal. Several stations in Connecticut and Rhode Island report rain and thunder in the afternoon. At Hartford several distinct thunderstorms were seen, and one passed over the city. At South Glastonbury the destructive wind was from the south and in Cromwell, not far away, it was from the north. Observation of clouds showed evidence of a rotary motion. Lightning did damage at New Haven, Bridgeport, New London and other places, and the wind also was severe. The fall of temperature was well marked, the oppressive heat of the morning being followed by a cool evening.

August 2. The pressure continued slightly below the normal and very even; the weather cloudy or rainy, with variable winds. A small storm moved from northern Rhode Island northeast across southeastern Massachusetts between 3 and 4 A. M. at the rate of 40 miles an hour, extending as far north as Boston. At Kingston a very high northwest wind ("tempest") is noted. Another early morning storm is noted at Adams, Mass., at 4 A. M. From there it moved northeast across Vermont and New Hampshire, being last reported after 8 A. M. in eastern New Hampshire. The rate of movement was 30 miles an hour. A number of stations in Rhode Island and on Cape Cod send reports of thunder and rain between 10 and 11 A.M. A third small storm occurred in western Connecticut between 7 and 8.30 P.M., and a fourth in western Massachusetts between 6.30 and 7 P.M. Their rate of movement was about 25 miles an hour, and direction of movement southeast. Carmel, N. Y., reports: "Heavy storm clouds from the southwest came up with a southwest wind (7 P.M.), and met a storm which had hung in the northeast and was moving in a southwesterly direction." New Concord notes a great commotion in the upper clouds, showing "a cyclonic motion." Carmel says: "This storm took a circular course, beginning in the southwest, going to the north, then to the east, and finally dissipating to the southeast."

August 3. The pressure was even and above the normal; and the weather fair, with northerly winds. Three reports mention rain and thunder in the afternoon.

August 4. The pressure had risen above 30.10 inches; a cyclonic depression was central over the upper Lakes, the weather cloudy, and the wind southeast. A few reports from Vermont speak of thunderstorms between 3 and 5 P.M.

August 5. The cyclonic area was over the lower Lakes, the pressure still above the normal, the weather warm, cloudy or rainy, with southerly winds. Several reports mention thunder in the general showers during the day.

August 6. During this day the cyclonic area moved northward of the lower St. Lawrence, bringing general moderate rains and southerly winds. A general distribution of thunderstorm action over the southern and eastern parts of the district characterized this day. The disturbance entered western Connecticut and Massachusetts about 9 A.M. and gradually moved to the east, going off to sea about 1 or 2 P.M. Connecticut and eastern Massachusetts send a good number of records, but the times of occurrence do not accord very well, so that no definite statement of advance can be made, though the general eastward movement is evident, the rate of advance being slow. The thunder occurred during a general rain or fog in most places, the rainfall increasing with the thunder. Framingham, Mass., reports: "Noticed thunder-clouds in north and west. Those in north formed a thick black mass and moved swiftly overhead to the south. Those in west seemed to be made up of thick layers, which crowded under each other, getting lower and lower, till it seemed as though they would touch the earth, all the while moving very swiftly south." Newburyport records: "The storm was first seen in northwest; distant thunder, 11.45 A.M. A squall of wind and rain passed over from south at 11.51. . . The storm moved rapidly towards the east, passing about four miles northeast of us until it struck the ocean, when it moved in a southerly direction along the coast." At Sharon, Mass., the lightning did some damage; a ball of fire was seen descending, and this divided into two parts, one of which struck a house. Dedham, Mass., and Brooklyn, Conn., note a dividing of the storm. At Turnerville, Conn., the wind shifted from southwest to northwest very suddenly after the rain began. Mr. Clayton reports a second storm later in the afternoon, and says: "Preceding the thunderstorm was a long cumulus roll. The roll was very long and had an arched front. Its front passed our zenith at 5.10 P. M., and its rear at 5.25 P. M. There was a marked increase of wind velocity during its passage. The roll had the appearance of a low dark cloud-bank, extending below the level of the other clouds, and was quite ragged at its base. On closely watching its ragged base, cloud-fibres were distinctly seen to be forming and rising upward into the roll."

August 7. Under the influence of an anticyclone over the lower Lakes, New England had cool northwest winds and fair weather, with pressure near or above the normal. Two reports mention rain and thunder in the afternoon.

August 8–9. The pressure continued high and the weather fair, with generally northerly winds during these days, which passed without reports of thunder.

August 10. The pressure was falling slowly, and the weather became cloudy, with winds westerly or southerly. A storm of very moderate energy, and poorly reported, moved across northern Vermont and New Hampshire, and into Maine, between 2.30 and 7 P. M., travelling at the rate of about 28 miles an hour. At Moose River, Me., hail is reported; at other places the amount of rainfall was inappreciable.

August 11. The approach of another cyclonic area over the Lakes caused the pressure to fall over New England, and brought general rains, with southeast winds. One of the largest and best reported storms of the summer entered northwestern Massachusetts shortly after noon of this day and advanced to the southeast, gradually extending in area to the Sound on the south, and into southern Vermont, New Hampshire and Maine on the north. The lines marking the half-hourly position of the rain-front run nearly north and south in several cases, and show convexity at the centre in two cases. Between 2 and 3 P. M. the advance of the storm was more rapid than during the other hours of its progress, reaching 35 miles an hour then, the average rate of movement being 30 miles. The storm went off to sea in Maine, New Hampshire and northeastern Massachusetts after 3.30 P. M.; the last report on Cape Cod is 6 P. M. Extracts from the records follow: West Levant, Me.: "This storm occurred during a rain-storm and dense fog." Kingston, N. H.: "The first violent thunderstorm of the year, which located here, *i. e.*, overhead. The strokes were in rapid succession and not over 1500 feet and 2000 feet west of village centre." Brattleboro, Vt.: "This shower seemed to divide before it reached us, and passed north and south of us. Was quite heavy on both sides." In Vermont and New Hampshire the rainfall was not great. At North Attleboro, Mass., some damage was done by lightning. An enterprising local newspaper says in this connection: "Our reporter was fortunately near, and as the electricity left the building one way, he entered by another, and was thus enabled to observe its effects at once." Deerfield, Mass.: "This shower commenced in the southeast. The day had been cloudy and sultry, and the wind was apparently in every direction." Florence, Mass.: "Terrible lightning strokes one and a half miles north of here, after it had stopped raining." Hudson: "Temperature fell from 80° to 72°, and continued at that until 6 or 7, when it rose somewhat, the atmosphere at the latter hour being muggy." At Newburyport the temperature rose from 69° at 4.45 to 72° at 5.15, after the rain had stopped. Damage by lightning is reported from Sterling and South Sudbury. Newport, R. I.: "The wind was southwest all day, and did not change before or during the storm. At 3 P. M. there was indication of rain, and at 3.30 the first thunder was heard. The storm seemed to come from seaward with the wind, and to pass to the east very slowly. After the storm had passed, the wind came out from the east and blew a good breeze." Shelton, Conn.: "2.30 P. M., severe gale for about six minutes." The squall-wind, where noted, came after the rain began. A second very moderate storm moved east across southern Connecticut between 7.30 and 9 P. M.

August 12. During this day the storm centre crossed northern New England, bringing scattered showers and southerly winds, with high temperatures. A few reports mention thunder, and Sebec, Me., notes damage by lightning.

August 13–14. An anticyclone approaching from over the Lakes brought rising pressure and clear weather, with westerly winds.

August 15. A large area of moderate low pressure covered the Central States, and New England had pressure slightly below the normal, fair weather and westerly winds.

August 16. A moderate cyclonic area hung over the Gulf of St. Lawrence, and New England had cloudy weather with westerly winds. Two reports mention faint thunder.

August 17. The pressure had risen somewhat, the weather was clear, and the wind northwest.

August 18. A well-developed cyclonic storm coming from Illinois crossed New England centrally on this day, giving rain, high southerly winds, a thunderstorm in the morning and a second thunderstorm following a clear interval shortly after noon. In the early morning a storm crossed northern Massachusetts from west to east. It was first noted at 3 A. M. at Shelburne, and last in the northeastern corner of the state at 7 A. M. Its rate of movement was 30 miles an hour. Quinapoxet notes a rainy morning and says: "Temperature of rain at the commencement of the storm, 70° F. About 10.30 A. M. a strong warm wind came suddenly from the west, raising the temperature 8° F. in a few minutes. The rain also had risen in temperature 4° F. In this storm the cold preceded the hot wind, but there was nevertheless a strong and decided change of temperature." This storm was followed by a showery morning. The rainfall during this day was very heavy at many stations; at Amherst, Mass., 3.26 inches fell; at Worcester, 3.25 inches; at Lawrence, 3.29 inches; at Newburyport, 2.38 inches.

The second thunderstorm (Plate X, Fig. 22) entered northwestern Connecticut just after noon, and moved east across Connecticut and eastern Massachusetts, reaching to northeastern Massachusetts on the north and southern Connecticut on the south. The lines marking the successive position of the rain-front run from northeast to southwest, and show a slight concavity in the south. The storm reached the sea in the north after 3 P. M., but dissipated in Rhode Island at 3.30. The rate of movement was 50 miles an hour. The cyclonic centre during these hours was moving across central New Hampshire. Extracts from the records follow: Fitchburg, Mass.: "Temperature was 73° before the shower and 69° after it ceased to rain." Newburyport, Mass.: "3 P. M., wind south, light; 76°; cloudy; black clouds growing rapidly in west; 3.15, wind southwest, light; 76°; thunder in south; rain commences; 3.33, wind south, brisk; squall of wind and rain for five minutes; 3.40, wind south, light; temperature 72°; rainbow in northeast; breaks in west; 3.50, wind south, brisk; rain ends; slight squall of wind." Shelburne Falls: "Furious wind and rain." Liberty, R. I.: "It was cloudy in the morning, and there were occasional light showers, and later in the day distant thunder was heard. Afterwards there was quite a brisk shower, and perhaps an inch of rainfall." Durham Centre, Conn.: "1.45 P. M., dark clouds north and northwest; scuds driving rapidly southwest to northeast; upper clouds cirro-cumulus, moving more slowly in about the same direction; 2 P. M., heavy black clouds north and northwest, driving low; edge of storm-cloud 35° or 40° up in northwest; 2.07, edge of storm-clouds somewhere overhead, but masked by plenty of scud; 2.17, dark pocky cloud rising in west; wind variable, southwest to northeast; 2.18, northwest wind, brisk, cool; pocky cloud-edge about overhead; rain; 2.28, wind lulled northwest, and at 2.29 went back to southwest; 2.45, bright in northwest; rear of storm in sight." Voluntown, Conn.: "Corn badly prostrated by the heavy wind."

August 19. The cyclonic centre was over the Gulf of St. Lawrence. New England had fair weather and westerly winds. A few reports from northern Connecticut indicate a storm moving eastward across the northern part of that state between 7.30 and 9 P. M., the cyclonic centre being at this time over Newfoundland.

August 20. The pressure had risen under the influence of an approaching anticyclone over the Lakes; the weather was fair or cloudy, with westerly winds. A fairly well defined storm developed in western Massachusetts at 8.30 A. M. and moved to the east, reaching the coast about 11 A. M. The storm was confined to Massachusetts, with the exception of a few reports from southeastern New Hampshire. It moved a little less than 50 miles an hour. An interesting record from Seabrook, N. H., near the coast, notes: "Storm did not appear to pass in any direction, but died away." East Pepperell, Mass.: "I have noticed this year, and years before, that even when showers form in northwest from this point, the bulk pass either to east by the south or by the north; very few reach us." At Fitchburg the temperature fell from 68° at 9.30 to 57° at 10.15. Quinapoxet, Mass., reports: "A fall in temperature of 8° in fifteen minutes." Nahant: "10.35, dark cloud in west-northwest, moving to north. At 10.45 cumulo-stratus in west, 10° elevation. This soon became the squall-cloud. Its northern end was lost in the dark cloud which continued to move to north; the other end extended to west. This ran very rapidly; upper edge became ragged; crossed zenith at 10.58 with brisk squall of wind from west-northwest; dark clouds passing north, the squall-cloud disintegrating; 11.10, squall-cloud nearly dissolved in distance; dark cloud in north-northwest." Pigeon Cove: "This shower, as is so usual here, divided, a part going towards the northeast and a part to southeast, so that we did not get the more severe portion." After 7 P. M. thunder was heard and rain fell at a few stations in eastern Massachusetts.

August 21. The pressure was somewhat below the normal, and the weather fair, with northwest winds.

August 22. An extended but ill-defined area of low pressure east of the Mississippi brought southwest winds and rain to New England. In Connecticut a few reports indicate an eastward moving storm between 5 and 6.30 A. M., the thunder being heard in the general rain of that day. Between 2 and 4 P. M. another slight storm moved across Connecticut, and a third between 2.30

and 3.30 P. M. traversed northeastern Massachusetts. The rate of movement was about 50 miles an hour in Massachusetts, and 30 in Connecticut. East Pepperell, Mass., notes: "2.56 P. M., air for a few minutes as if greatly condensed; very hard to breathe." In most places it was only thunder heard in the general rain, but at Buckland, Conn., damage was done by lightning.

August 23. The cyclonic centre was over Pennsylvania, of slight energy, and the Eastern States had rain, with northeast winds. Between 6.30 and 8.30 P. M. a storm moved eastward across Connecticut, fading away before reaching Rhode Island. Its rate of movement was 35 miles an hour, and its greatest width thirty miles. At the time of the occurrence of this storm the cyclonic centre had faded away south of Long Island. There are also a few scattered reports from eastern Massachusetts during the evening. Carmel, N. Y., reports: "The storm-clouds came up in the west and northwest and moved to the north and northeast, the wind blowing from the north all the time. When the rain fell it came in sheets, driven by a gale from the north." The storms were in most places little more than a slight rainfall with thunder, in a general fog or mist.

August 24. A cyclonic area that was near Florida on August 23 had moved to the Carolina coast at 7 A. M. of August 24. New England had unsettled weather, with clouds or rain, and variable winds. Thunder was quite generally reported throughout the day except in the northern parts, and between 9 A. M. and 1 P. M. a storm seems to have moved across Massachusetts from west to east, at the rate of about 15 miles an hour. Portland, Me., reports: "Following two days of almost steady rain about noon it became very dark and while yet raining at 12.30 P. M. thunder and lightning commenced, and rain fell in copious showers. It subsided into a drizzling rain." Canterbury, N. H.: "The day was cloudy and rainy, and this shower occurred during the storm." Keene, N. H.: "Thunderstorm passed over, but the northeast storm hangs on." East Pepperell, Mass.: "Temperature, 62°; rain temperature, 61°." Manchester, Mass.: "At 1.15 west-northwest squall, with very heavy rain." Quinapoxet, Mass: "It had been raining gently all the morning, with wind east, but at 11 A. M. the wind changed to north, and then to west, where it remained till the storm ended, when it again returned by south to east, where it started."

August 25. The pressure was 29.80 inches, without a definite centre, and the weather cloudy, with northwest winds.

August 26. The pressure gradually rose under the influence of an approaching anticyclone; the weather was fair, and the winds northwest.

August 27. The cyclonic area which had been moving up the coast was northeast of Newfoundland on this day. The weather was clear and cool, with fresh westerly winds.

August 28. The pressure had risen to the normal or above it; the weather continued clear, and the winds northeast.

August 29. The anticyclone was central over the Lakes, the pressure in New England above the normal, and the weather clear, with northerly winds. The anticyclonic weather of this and the two remaining days of the month was singularly interrupted by local showers, with thunder and hail at places. From northeastern Massachusetts there are several reports of thunderstorms between 4 and 5 P. M.; also some scattering reports from Maine, Vermont and New Hampshire. Mayfield, Me., reports: "It would seem that there have been two storms passing in parallel paths." Paris, Me.: "This shower was heavy a few miles to the east, but the rainfall was too small to be measured at this station." At West Cumberland, Me., hail fell. Charlotte, Vt.: "Quite a gust of wind came at commencement of shower, but all died away before it ended." Haverhill, Mass.: "Rain began at 4.25 P. M.; wind west-southwest; 4.31, wind wheeled suddenly to northeast."

August 30. The pressure continued high, and the weather fair, with light northwest winds. Between 1 and 5 P. M. there was widespread thunderstorm action in southern New England, chiefly in southeastern Massachusetts, Connecticut and Rhode Island, but the records are too confused to admit of accurate charting. In many places the wind, lightning and hail were very violent. At Lonsdale, R. I., 2.85 inches of rain are reported, and at Pawtucket 2.09 inches fell. The Boston *Herald* reports heavy rain, large hailstones and a "hurricane" of wind at South Hanson, Mass., and hail at Dayville, Conn. Buildings were struck by lightning in Pomfret, Conn., Lonsdale, R. I., and Mansfield, Mass. Keene, N. H., reports: "This shower was narrow; most of the time fair or clear sky was visible both east and west of the rain-clouds." Brattleboro, Vt: "4 P. M., commenced to rain; with no barometric change thermometer fell from 65° to 62°; 4.30, ground white with hailstones from size of pea to acorn, lasting fifteen minutes; during whole storm sun was shining brightly and sky was not more than half obscured." Blue Hill notes: "This appeared to be a stationary thunderstorm, and was the only one observed during the summer." Pembroke, Mass.: "I never saw such a variable wind during a thunderstorm; just as soon as the wind veered to the south of east it would hail harder and larger, and when it shifted north of east the hail would moderate. One third of a mile southwest of here they had no hail at all, and at South Hanson I am told there was not rain enough to lay the dust. The hail was more abundant towards South Hanson than here. I went there the next morning after the storm and saw several places then (at 7 A. M. the next day after the storm) where I could have got a wheelbarrow load of hailstones. The places were where two roofs came together, so as throw the hail that fell on them into a common centre below." At Plymouth hail fell one half an inch in diameter. The observer at Quinapoxet, Mass., says: "I caught a few (hailstones) when they first began to fall, upon a woollen cloth, and examined them with a microscope. They consisted of a transparent nucleus surrounded by a conglomeration of smaller ones. A few were transparent and nearly round." Thompson, Conn.: "No heavy mass, but detached clouds."

August 31. The conditions remained anticyclonic, as on the two preceding days. A few reports mention thunder. South Canaan, Conn., notes: "The last day of summer and the heaviest shower of the season. The rain advanced like a wall, and came in sheets, and a mile away hail lay in drifts."

THUNDERSTORMS OF 1887. SEPTEMBER TO DECEMBER.

September. The month of September was unusually dry, and the temperature below the normal. The weather was affected by seven moderate cyclonic storms, all but one of the storm centres coming from the west and passing north.

On September 2 a moderate cyclonic area was passing down the lower St. Lawrence Valley, and New England had cloudy or rainy weather, with southwest winds. Thunder with rain is reported at Woodstock, Vt., in the evening. On September 6 a cyclonic centre was over the Lakes, giving southerly winds and fair or rainy weather in New England. There are a few scattered reports of thunder with the rain.

The only heavy rain of the month occurred in a thunderstorm in connection with the second cyclone. The temperature had been rising for several days and on September 7 reached the general maximum of the month. At 7 A. M. of this day the cyclonic depression was north of the St. Lawrence, with cloudy and rainy weather and southwest winds in New England. A moderate thunderstorm occurred in northern Vermont and New Hampshire in the early morning of this day, and a more general one in the afternoon between 1 and 3 in Vermont, and 5 and 7 in eastern Massachusetts. No very definite movement can be made out for any of these storms. At Berlin Mills, Vt., "during the storm every heavy peal of thunder was followed in a second or two by a sudden spurt of rain." At Bridgewater, Mass., damage was done by lightning and a considerable amount of hail fell. At Foxboro' the storm was the most destructive of the season, and some damage was done by lightning. The shower is noted as returning twice. Quinapoxet: "With the approach of this storm there was a rise of temperature of 4°, which was maintained throughout." From South Canaan, Conn., a "cyclone" is reported which "looked like an immense spherical cloud, bounding along the hill-side like a mammoth rubber ball, and carried destruction with it, for wherever it touched the ground there the fences were levelled, large trees were uprooted or twisted from their trunks, and at whatever altitude the cloud travelled there the tops and branches of large trees were twisted off, while the smaller trees bent like rushes before the gale."

On September 9 New England had high pressure, clear weather and northerly winds at 7 A. M., followed by rain under the influence of an approaching cyclone. Grafton, N. H., reports a thunderstorm in the evening. On September 14 there was a large poorly defined cyclonic area in Canada, but New England had pressure above the normal, southerly winds, and cloudy or rainy weather. Lewiston, Me., reports thunder at 11 A. M. September 17 brought high pressure, northerly winds and clear weather. Two reports mention thunder. Brattleboro, Vt., notes hard rain and one clap of thunder. On September 30 there was a cyclonic area south of the Lakes. New England had variable winds and cloudy weather with rain. A thunderstorm occurred in Connecticut between 5 and 8 A. M.

October. October was generally cool and dry. The weather was affected by the passage of seven cyclonic storms. The first four or five days of the month were cloudy, with frequent and generally moderate rains, during the approach of a composite cyclone, one part coming from the Gulf of Mexico, the other from Winnipeg, and the two uniting over the Lakes on October 3. During this period several thunderstorms occurred. On October 1 there was a low area over the Lakes and an anticyclone moving off the eastern coast; thunder was noted at a few stations and at scattering hours. On October 2 the pressure continued much as on the previous day, the cyclonic area being central near Oswego at 7 A. M. A slight thunderstorm is noted from New Hampshire to Rhode Island in the early hours of the afternoon. On October 3, when the cyclonic centre was over the Lakes, a brisk storm appeared in northern Vermont and New Hampshire early in the afternoon, and moderate storms were felt in the middle of the afternoon and evening in eastern Massachusetts and Rhode Island. On October 5 the centre was north of New England, bringing cloudy weather and westerly winds. Manchester and Swampscott, Mass., report a thunderstorm in the evening.

November. During November thunder is once reported, on the 28th. A cyclone moved from the Lakes down the St. Lawrence on this day, giving cloudy weather and rain, with southerly winds and high temperature, followed by a sudden change in the wind and a sharp fall in the temperature.

December. There is one report of thunder in December, on the 28th, at North Conway, N. H. This occurred in a general warm rain, due to the passage of a cyclone down the St. Lawrence Valley.

REVIEW AND DISCUSSION.

Number of Thunderstorms. In the accompanying table are given in the second column the number of days in each month on which thunderstorms were reported, and in the third column the number of days on which storms showed distinct movement.

Month.	*Days with Reports.*	*Days with Movement.*
January.	1	0
February.	1	1
March.	0	0
April.	5	0
May.	6	0
June.	18	7
July.	29	16
August.	20	13
September.	6	2
October.	4	2
November.	1	0
December.	1	0
Total,	92	41

June, July and August were, as is seen from the foregoing table, the months of greatest frequency of reports of thunder, and July had the greatest number of distinct storms, averaging one storm every two days. The only thunder heard in February was in connection with a well-defined storm showing distinct progression, apparently an unusual occurrence in that month. The days on which storms had progression were 44 per cent. of the whole number of days on which thunder was reported.

Time of Occurrence. The hours of maximum frequency of thunderstorms during the year were 3.30 to 5.30 P. M. About 20 per cent. of all the storms noted occurred in the morning, their hours of greatest frequency being 4.30 to 8.30 A. M.

Rate of Movement. The average rate of movement of all the storms during the year was between 30 and 35 miles an hour. The highest velocity noted was 50 miles, in several cases; the lowest 15 miles, on August 24.

Relation to Cyclonic Areas. Figures 5 and 6, Plate VII, give the results of the charting of the relative positions of the centres of low pressure and the regions of thunderstorm occurrence. The lines are drawn in all cases where the storms showed distinct progression, and where there was a definite position of the cyclonic centre in the eastern United States or Canada marked on the chart showing the tracks of the areas of low pressure in the "Monthly Weather Reviews" of the Signal Service. It will be noticed that these lines are very irregular, and that there is apparently no definite rule as to the occurrence of thunderstorms in a certain quadrant of a cyclonic area, although in these three months the majority of storms were east of south of the cyclonic area.

During June eleven storms with distinct movement were noted, on seven days. In four cases the Washington 7 A. M. maps showed a cyclonic area over the Lakes. Of the remaining days, two had low pressure areas off the Gulf of St. Lawrence, and one had nearly normal pressure, with no defined centre of low pressure. The small number of thunderstorms was undoubtedly due to the prevailing anticyclonic conditions which were a distinguishing feature of the month On fifteen of the remaining twenty-three days the pressure over New England was above the normal, and on four very slightly below the normal. On the four remaining days the conditions seem to have been favorable for the development of thunderstorms, but no distinct ones occurred; although on three days there were scattering reports of thunder.

In July twenty-four storms possessing distinct progression were noted, on sixteen days. In five cases the centre of low pressure was over the Lakes; in four over the Gulf of St. Lawrence; four days had pressure above the normal; one had the low pressure area central over New England; one over the lower St. Lawrence, and in the last case there was no definite centre. As will be seen in figures 5 and 6, the number of lines joining the centres of low pressure with the thunderstorm region is less than the number of days on which thunderstorms occurred; this is due to the fact that on many days, although the 7 A. M. map showed a fairly distinct area of low pressure, the latter faded away before the hour at which the storm occurred, and hence its position is not shown on the chart in the "Monthly Weather Review." Of the remaining fifteen days of the month on which no distinct thunderstorms occurred, eight had anticyclonic conditions with pressure above the normal, as shown on the 7 A. M. maps; one had pressure but slightly below the normal; three had cyclonic centres over the Lakes (but two of these had nearly normal pressure); two had cyclones central over the Gulf of St. Lawrence, and one had a cyclone central off the coast. It appears from this investigation that when the pressure is above the normal thunderstorms are unlikely, though they do occur, but why no thunderstorms occurred in many cases where there were cyclones central over the Gulf and Lakes is not apparent, the conditions on some of these days not differing, so far as has been seen, from those on days when thunderstorms did occur. It is to be noted, however, that the thunderstorm days were, as a rule, distinguished by higher temperatures than those which did not produce thunderstorms. The anticyclonic days which brought thunderstorms had the high pressure centre off the coast to the south of New England; on those days which did not produce storms the anticyclone was central to the northwest or northeast.

In August eighteen storms with marked progression occurred, on thirteen days. On three of these the pressure was above the normal with anticyclonic conditions of weather; two had pressure slightly below the normal, with no clearly defined centre; three had cyclonic areas over the Lakes; two over the Gulf of St. Lawrence; in one case the low area was over the St. Lawrence, in another off the southern coast, and in the last case the pressure was low, with no defined centre. An examination of the maps on days when no thunderstorms occurred showed the following conditions: Of the eighteen days left, nine had pressure above normal and generally clear or fair weather; four had pressure slightly below the normal (with an anticyclone approaching over the Lakes in three cases); two had cyclones central over the Gulf of St. Lawrence (one with an anticyclone approaching over the Lakes); two had ill-defined low pressure areas over New England (one with an anticyclone over the Lakes), and one had a cyclonic area south of Nova Scotia, also with an anticyclone over the Lakes. It appears from this that, under certain conditions when there is an area of high pressure over the Lakes, although there may be low pressure over New England, or a cyclone over the Gulf, thunderstorms are not likely to occur. In general, the days which brought no storms had little cloudy or rainy weather at 7 A. M., while those on which storms did occur had generally foul weather.

During September three storms were noted with definite progression, on two days. On one day the 7 A. M. map showed a cyclonic area central north of the Lakes, with strong gradients over New England; on the other, the pressure was above the normal, with a moderate cyclonic depression central over Illinois.

With regard to the reports on the storms of 1887 as a whole it may be said that they are more satisfactory than those of 1886, care having been taken in many cases to make notes on important features which escaped notice in the previous year's work. In the extracts from the records already quoted these points have been brought out, but some among them seem worthy of further mention here. The most interesting storm of the summer was that of July 29, which occurred with nearly normal pressure over New England, and which exhibited several noteworthy features. After it had moved over to the east, in the usual fashion, it returned again, as noted at six stations in Massachusetts, moving towards the west for a time, and then continuing its interrupted course eastward. It is a matter of regret that there are not enough records of this unusual feature to allow a more definite statement to be made. The changes of wind, as noted by many observers, were very marked, and seem to indicate a cyclonic indraught towards the storm, a feature already noted in connection with thunderstorms in Europe and in this country. Such changes of wind were also noticed at some of the stations on June 22 and July 31.

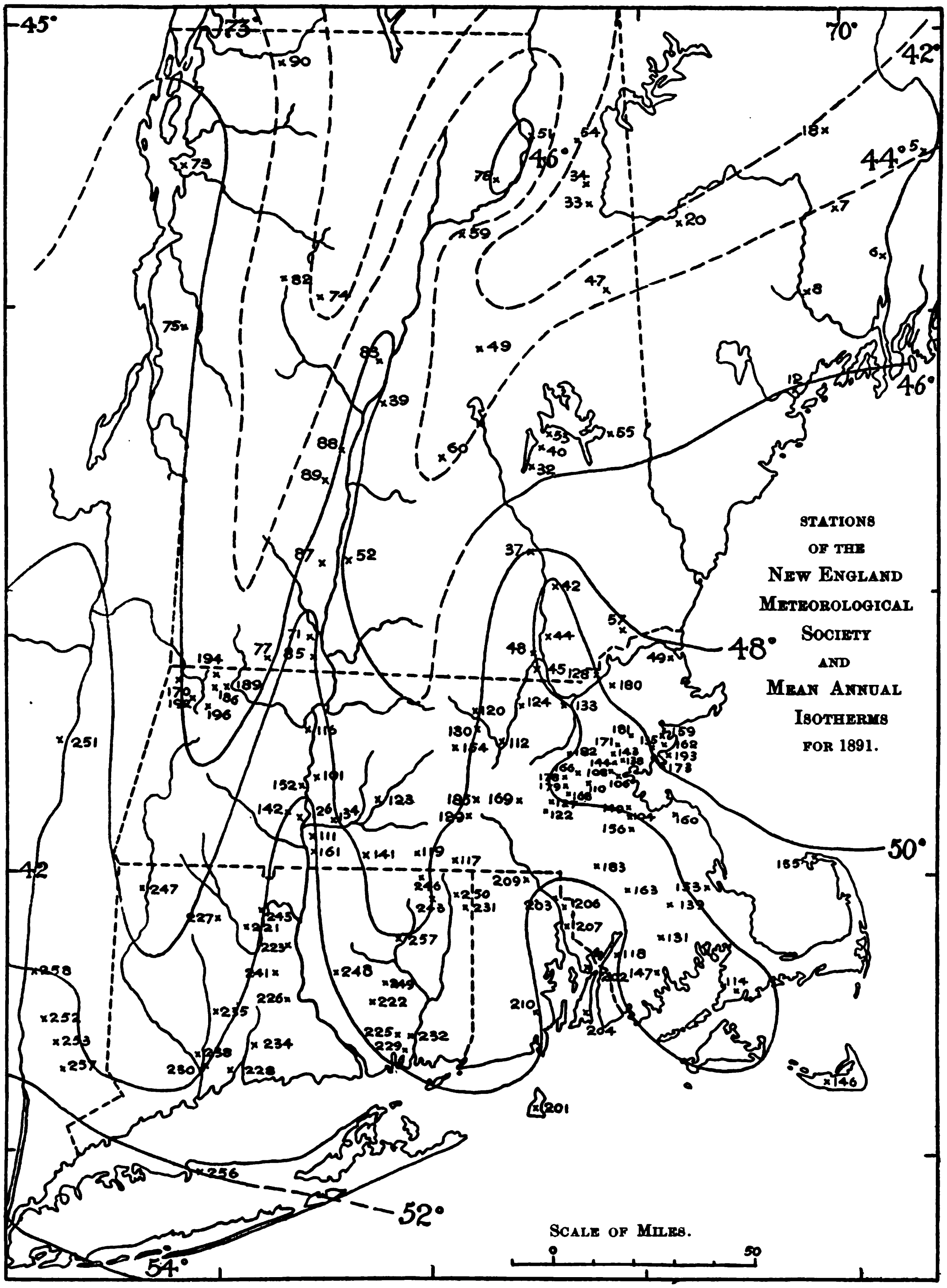
The dividing of the storm is one of the most frequent notes made in the reports, and but little further light has been gained on this interesting point. Many observers state it as a recognized fact that thunderstorms always divide before reaching their particular town. The only further point which has been gained in this connection is in the case of the storm of July 6, which, starting in western Vermont, Massachusetts and Connecticut, and moving eastward, did not traverse Massachusetts, though it was noted in New Hampshire and Maine on the north, and Connecticut on the south, thus leaving a break fifty miles wide in the middle of the storm. In the storm of July 25 two stations in an east-west line both note a dividing, which shows the progression of the break eastward with the storm, as was seen in the case of the storm of July 18, 1886.

Several reports mention cases where a thunderstorm formed or dissolved near them, as on June 16 and 19, and July 6, 9, 10, 17, etc., but do not give sufficiently full accounts to allow of any definite statement on this interesting point. Appreciative records of cloud forms and movements are quite frequent, notably those of July 1 (Medway, Mass.: "Cloud of a peculiar shape; looked like a gigantic mushroom. The movement of the outside edge was circular, in the direction of the hands of a clock"), July 29 (Cornwall, Conn.: "Clouds overhead seemed to have a circular motion around a centre nearly overhead"), August 1, and many others. The marked falls in temperature noted on June 16, and July 2 and 3, which amounted to 1° a minute in one case, are worthy of note. With regard to movement, the most remarkable storm noted was that of July 18, which apparently moved from north to south. On July 30 and August 30 some observers speak of the storm as stationary, and in that of July 30 a wind was noted blowing out of the rear of the storm.

Conclusion. In comparing briefly the results of the investigations of 1886 and 1887 it will be seen that they accord in most particulars. A notable difference is, however, seen in the relation of the cyclonic centres and the positions of the thunderstorms. While in 1886 the majority of thunderstorms (over 60 per cent.) occurred in the southern or southwestern quadrant of cyclones central north of New England, in 1887 the majority of the storms occurred in the southeastern quadrant or under anticyclonic conditions. Only 40 per cent. of the 1887 summer thunderstorms occurred in the southern part of distinct cyclonic storms, while in 1886 the number is 70 per cent. It is evident from this study that the prediction of thunderstorms for New England is a difficult task, and that no very definite rules can yet be laid down. A few general conclusions with regard to the probable occurrence or non-occurrence of local storms, based on the weather and pressure conditions of the morning weather map, are the only results of this investigation as far as prediction is concerned. As regards the number of storms and their rate of movement, the results of 1887 bear out those of 1886. The hours of maximum frequency were, however, earlier in the afternoon in 1887 than in the preceding year.

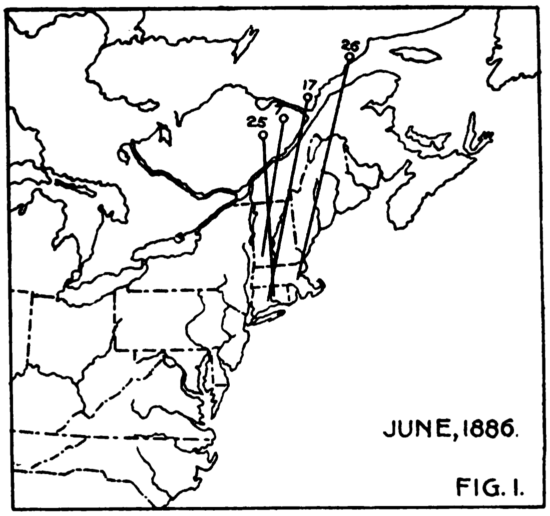
Owing to the length of time which has already elapsed since the records were made, it has not been deemed advisable to delay this paper by any further additions, although much still remains to be done. As the report stands, however, it is hoped that it will be found useful in further studies of thunderstorms, and as a contribution to this more extended field it is offered for inspection and criticism.

Plate VI.



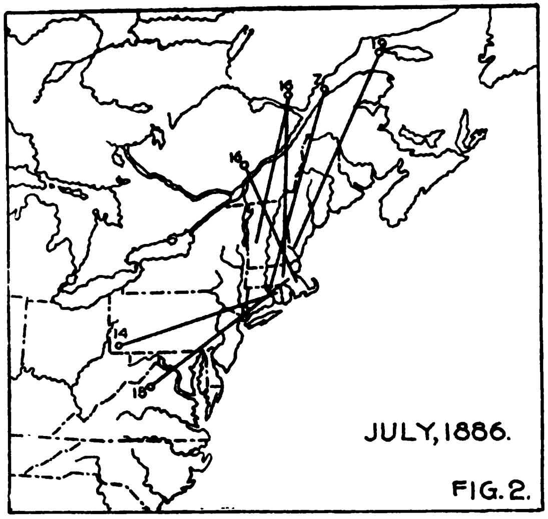
STATIONS
OF THE
NEW ENGLAND
METEOROLOGICAL
SOCIETY
AND
MEAN ANNUAL
ISOTHERMS
FOR 1891.

PLATE VII.



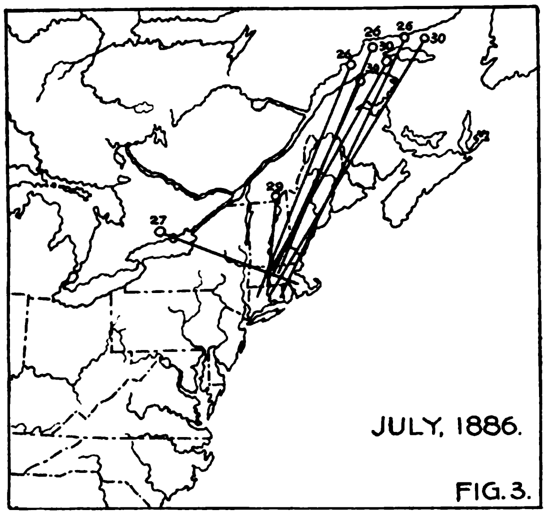
JUNE, 1886.

FIG. 1.



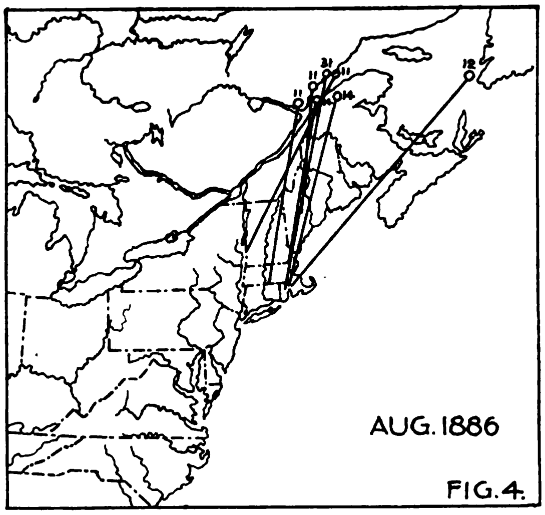
JULY, 1886.

FIG. 2.



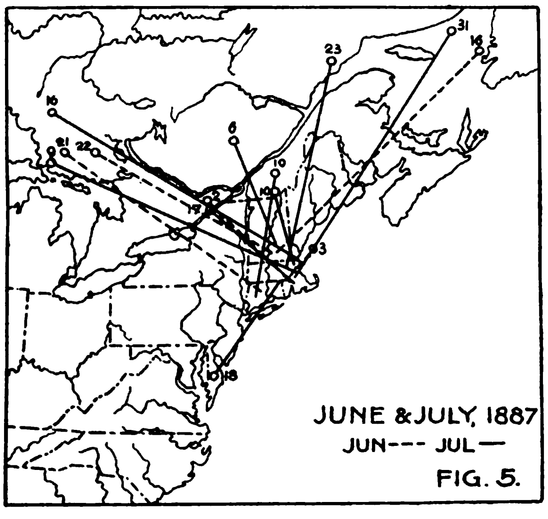
JULY, 1886.

FIG. 3.



AUG. 1886

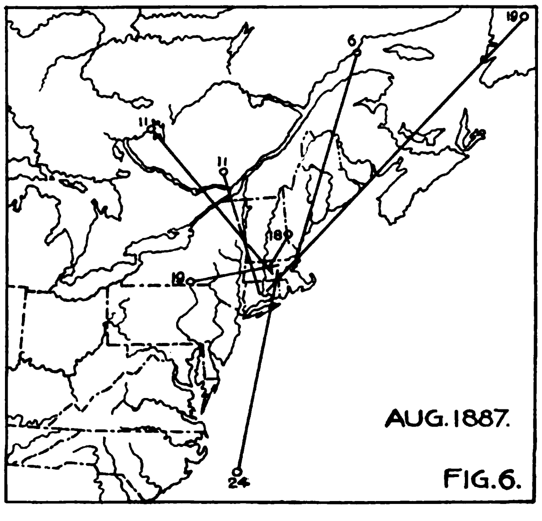
FIG. 4.



JUNE & JULY, 1887

JUN--- JUL—

FIG. 5.



AUG. 1887.

FIG. 6.

PLATE VIII

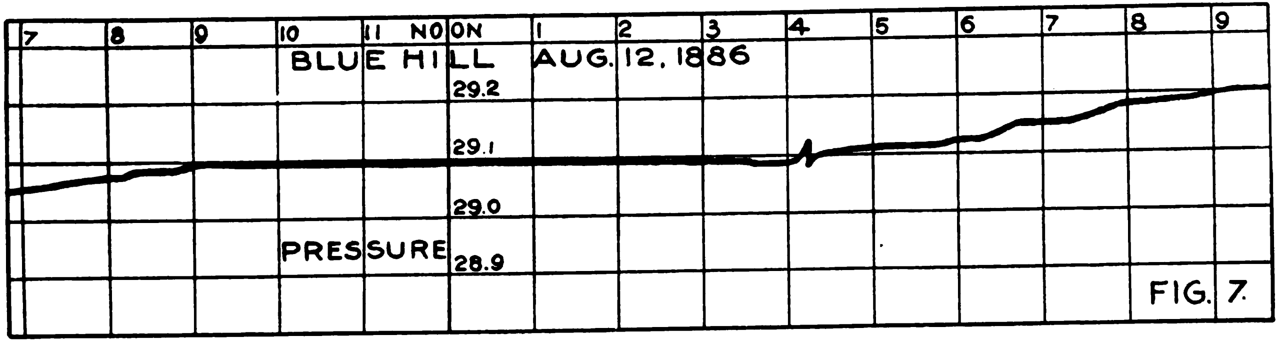


FIG. 7.

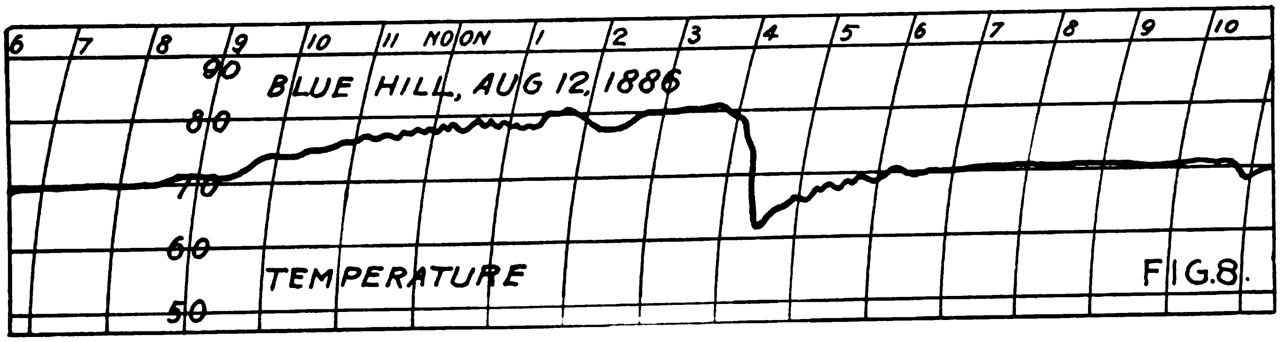


FIG. 8.

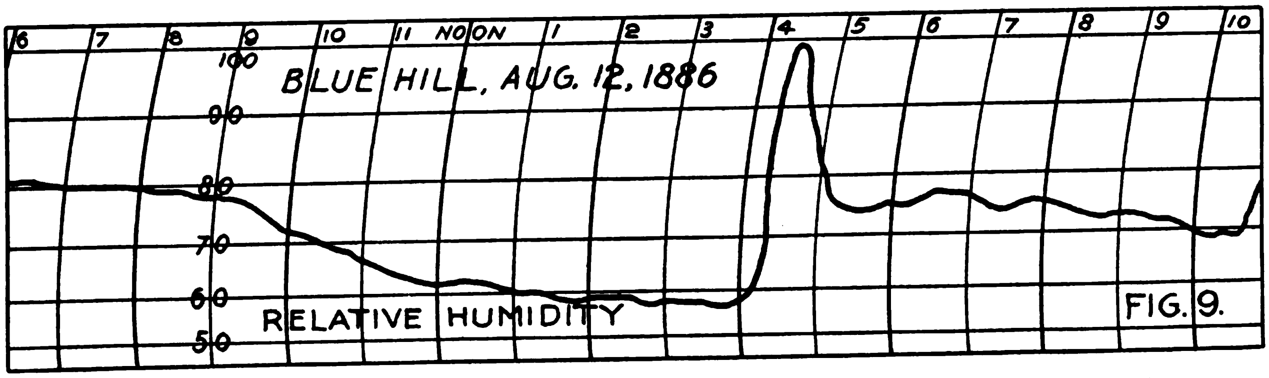


FIG. 9.

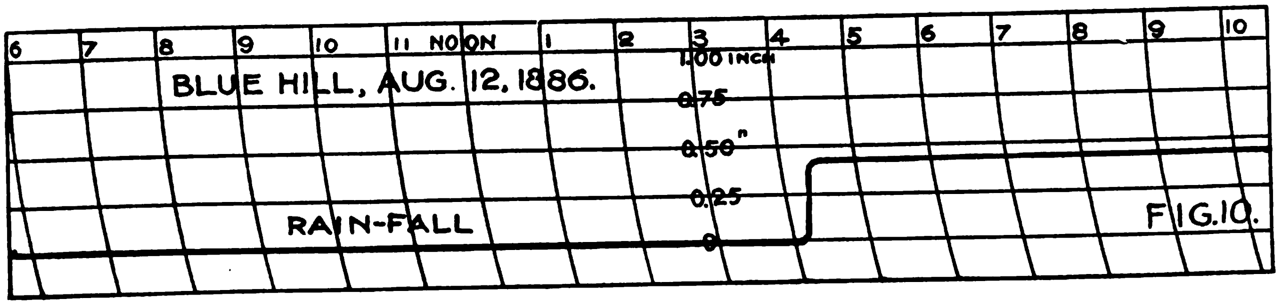
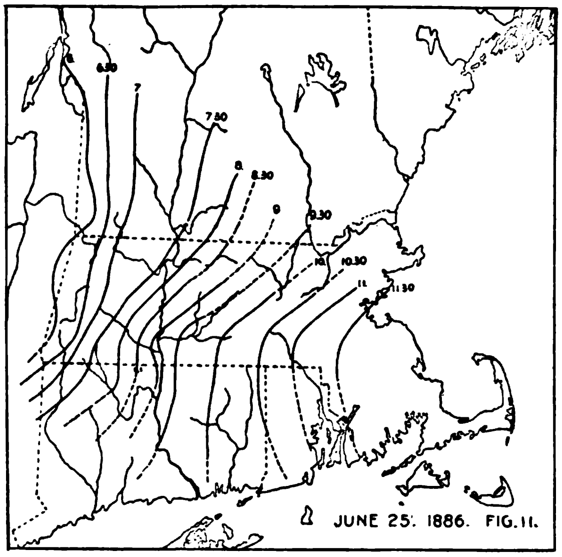
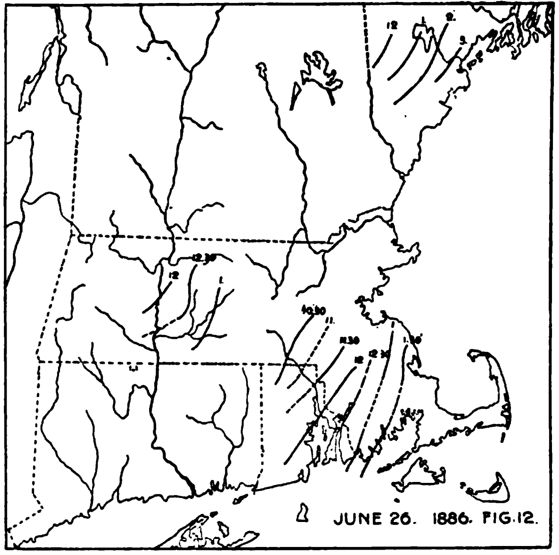


FIG. 10.

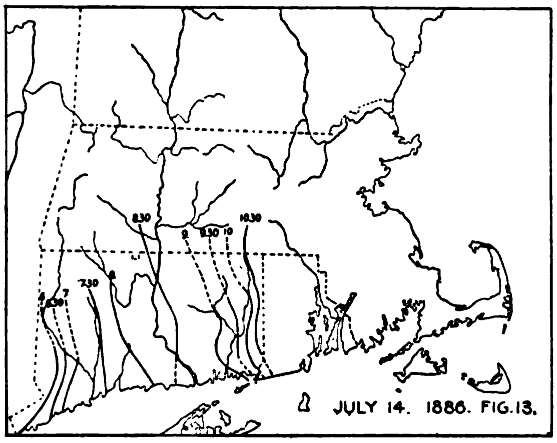
PLATE IX.



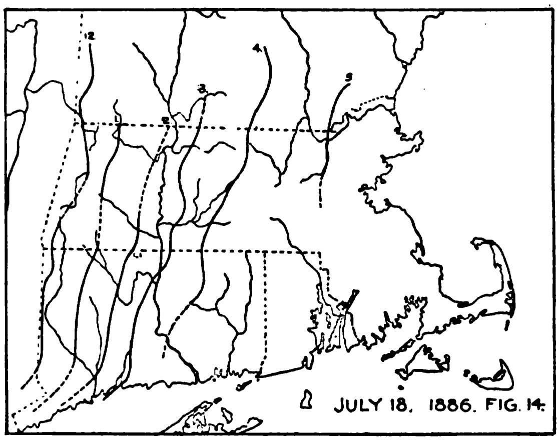
JUNE 25. 1886. FIG. 11.



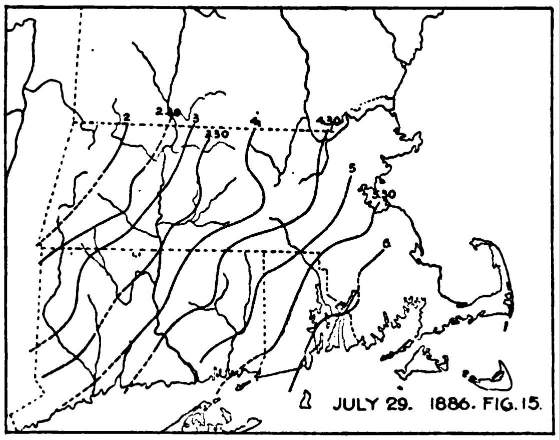
JUNE 26. 1886. FIG. 12.



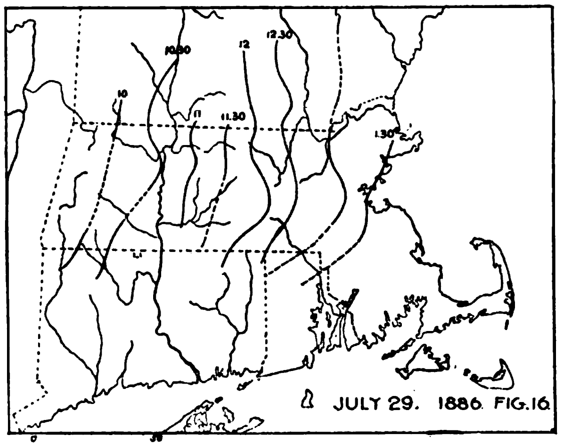
JULY 14. 1886. FIG. 13.



JULY 18. 1886. FIG. 14.



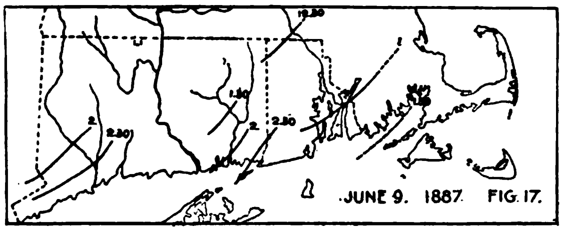
JULY 29. 1886. FIG. 15.



JULY 29. 1886. FIG. 16.

SCALE OF MILES

PLATE X.



JUNE 9. 1887. FIG. 17.

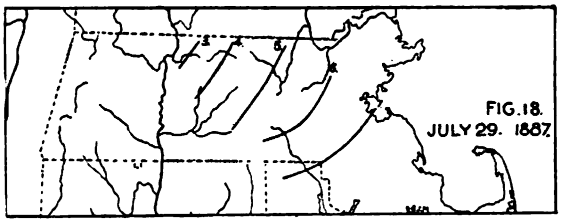
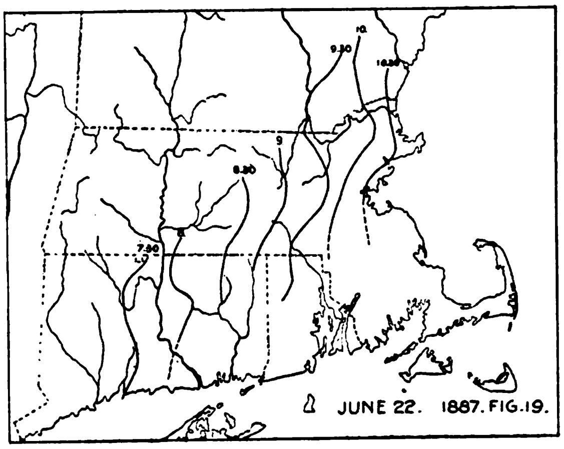
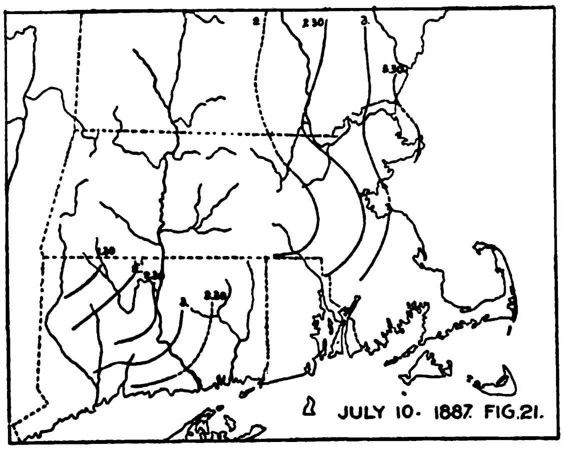


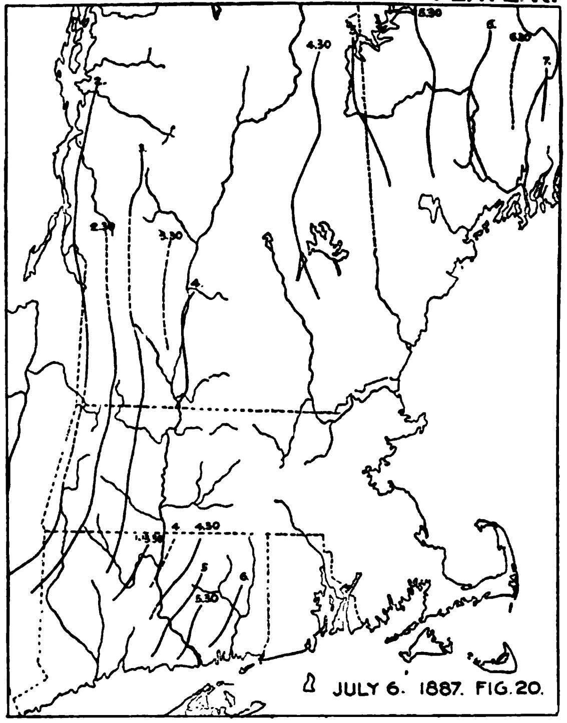
FIG. 18.
JULY 29. 1887.



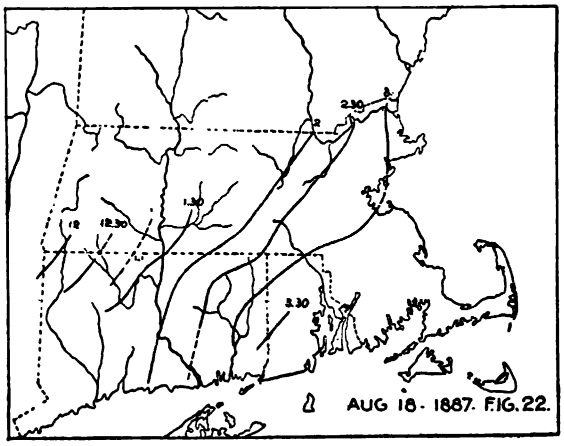
JUNE 22. 1887. FIG. 19.



JULY 10. 1887. FIG. 21.



JULY 6. 1887. FIG. 20.



AUG 18. 1887. FIG. 22.

SCALE OF MILES

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